

Fifty Years of NZMSS

A history of the New Zealand Marine Sciences Society

by

Bob Hickman

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new zealand marine sciences society



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Member of the Society since 1969, Secretary/Treasurer 1973-1975,
Treasurer 1987-1992, Council Member 1992-1994, Treasurer 1997-2004,
President 2004-2006, Immediate Past President 2006-2008
Life Member from September 2009

The New Zealand Marine Sciences Society or NZMSS, the abbreviation by which by the Society is more commonly known, will celebrate its first fifty years in 2010, when its annual conference will again be held in Wellington, the city where it all started back in 1960.

The **New Zealand Marine Sciences Society** came into being on Monday 16th May 1960, during a meeting of the Oceanography Section at the 9th New Zealand Science Congress. This initial meeting commenced at 5 pm, after the Congress's afternoon session of marine science presentations on "Currents in McMurdo Sound" by A E Gilmour and "Analysis of ocean currents around New Zealand" by J W Brodie. The main business of the meeting, which was attended by 'some 50 interested persons', was to make interim appointments of chairman, committee and secretary. The meeting determined that membership of the Society should be 'open to all with an active interest in marine research' and it also proposed four objects of the Society, which, despite some slightly archaic and doubtfully politically correct wording, have remained the four Objects of the Society included in its Rules through to the present day, namely

1. *To encourage and assist marine research in New Zealand.*
2. *To provide means of communication among persons engaged in marine sciences and to provide opportunity for them to foregather at least once a year.*
3. *To act as a spokesman where required on behalf of the interests of marine research in New Zealand.*
4. *To co-operate with other scientific bodies and to seek such affiliations as may be appropriate.*

The only committee member who was appointed at the meeting, and whose name appeared in subsequent documentation, was Professor George Knox. He was appointed as interim chairman, and he brought the first meeting to its conclusion by saying that the main function of the Society would be 'to let everyone know what contemporary work is going on in the field - to provide the sort of interim information that is useful for work in progress'.

Marine Sciences Newsletter No 1, which was 'prepared and distributed (in February 1961) by the Interim Committee, New Zealand Marine Sciences Society', was an attempt to satisfy this aim of providing timely information. The Newsletter reported the proceedings of the initial meeting, including an observation that 'several donations were made to help defray the initial expenses', and announced the proposal to hold the first annual meeting of the Society on the 18th-19th May 1961 in

Wellington, to formally inaugurate the Society and to include '*presentation of papers, a discussion and an excursion*'. Newsletter # 1, which was edited by John Bullivant, included reports of marine research in progress at the Zoology Departments of Auckland, Canterbury and Victoria Universities, the Portobello Marine Biological Station, the Dominion Museum, the Fisheries Branch of the Marine Department, and the New Zealand Oceanographic Institute. The contributors of these reports, each identified in the Newsletter only by their three initials, are readily recognised as Patricia R Bergquist, George A Knox, H Barraclough Fell, Elizabeth J Batham, Robert A Falla, K Radway Allen and John S Bullivant, respectively. Other sections contained within this first Newsletter were '*marine scientists travel*' (reporting on 3 visitors to New Zealand from overseas and 13 scientists from New Zealand visiting Canada, Chile, Denmark, Italy and the UK, but mostly the USA) and '*visits by research ships*' (from Japan, Russia, the USA and Australia). Completing the 26 pages of this first Newsletter were articles on Tasman and Coral Sea oceanography, marine geophysics, Russian biological research in the Southern Ocean, and recent oceanographic research in the Ross Sea.

The wide ranging contents of the first New Zealand Marine Sciences Society Newsletter clearly demonstrate that the discipline and practice of marine science was already well established and active in New Zealand by 1960. There was a body of professionals - at least 16 in academic positions and a similar number in government institutions - already working in the very loosely defined field of marine science. There was also a constant stream of marine-focussed science graduates emerging from the universities, particularly from the one with its own marine laboratory (at Portobello). Together these provided a considerable number of potential members for the newly formed NZMSS, and not forgetting those persons outside the profession, yet '*with an active interest in marine research*'.

The Newsletter provided the most tangible evidence of the existence of, and the activities of, the New Zealand Marine Sciences Society. The publication underwent a name change in 1991 (after Newsletter # 32) to the New Zealand Marine Sciences Society Review. The series has maintained an almost unbroken annual publication record since 1961, with only two exceptions; one occurred in 1989 (because of publication delays) and one in 2001 (when no new editor could be found). However Newsletter numbers were boosted during its early days when two issues were produced in each of the years 1965-1967, so the Review, as it is now called, has reached its 50th issue very slightly ahead of the Society's 50th anniversary. The Newsletter/Review series provides the most comprehensive record of the activities of the Society since it began. The contents of these publications reflected the overall changes that have taken place in New Zealand marine science, and particularly in marine research, throughout the last half century. Only the most recent Reviews (from # 41, published in September 1999, onward) are available as electronic copies on the Society's website (at <http://nzmss.rsnz.org/reviews.html>), all earlier issues having been published as hard copies for distribution to the membership.

The complete Newsletter/Review series, which reached Review # 50 in May 2009, has provided a far more reliable source than the author's memory for much, indeed most, of the information and anecdotes contained in this history of the New Zealand Marine Sciences Society.

Major Achievements

- **Conferences** – facilitating the ‘*foregathering*’ of its members ‘*at least once a year*’ has been a major aim, and one which has been continually achieved by the Society since its inception in 1960.

The 2008 annual NZMSS conference held in Christchurch was the 56th time that New Zealand marine scientists have gathered together under the auspices of the Society. On six occasions between 1966 and 1974, and again in 1979, the Society held two meetings in the one year. These double doses of marine science involved a summer meeting (in January or February) at one of the university marine stations, as well as the main conference and AGM which was always held in Wellington in August. Since one meeting per year became the norm from 1980 onward, the annual meeting and AGM have rotated around between the university cities of Auckland, Hamilton, Wellington, Dunedin and Christchurch, with occasional diversions to Nelson, one year at Mount Maunganui, and one trip across the Tasman to Townsville to join with the Australian Marine Sciences Association. Although the Society’s conferences have always been primarily to enable its own members to meet and exchange information, the Society has frequently broadened the scope of these exchanges by holding joint conferences with other societies and organisations that have similar fields of interest. Three of the early 1960s annual meetings were in fact held as part of New Zealand Science Congress programmes, with the Society’s main involvement being the holding of its AGM. Joint conferences have taken place with New Zealand’s Ecological, Limnological, Ocean Wave and Meteorological societies. NZMSS has also joined with its trans-Tasman sister organisation AMSA on four occasions, with the Australasian Society of Phycology and Aquatic Botany twice, and in 2005 NZMSS co-hosted a major international conference in Wellington, on “Human Impacts on the Marine Environment”, with the International Marine Bioinvasions and MARGINS groups of scientists. (See Table 1 for more detail of NZMSS conferences.)

- **Communication between marine scientists** – also a primary objective of the Society and one that has been continually addressed through the publication of the annual Newsletter/Review series, which reached issue # 50 in 2009, and of other occasional documents.

The New Zealand Marine Sciences Society Newsletter (1961-1990) and Review (1991- present) have provided a medium (**the** medium, perhaps) for scientists working throughout the many branches of marine science in New Zealand, to find out what others are doing and what they are publishing, and also what is going on at the various “marine” institutions and facilities in this country. Since numerous overseas individuals and institutions have also received the Newsletter/Review by virtue of their membership of the Society, the publication has also been communicating New Zealand marine science to a worldwide audience. The size and appearance of the publication has varied markedly over the years, from just a few pages in the case of the “smaller” issues put out during 1965-67 (in addition to the “main” issue published in each of those years), to the huge 269 pages of Review # 47, which was bulked up by inclusion of the Abstracts of the oral and poster presentations from the NZMSS, 4th MBIC and MARGINS joint conference held in August 2005. The most recent issues (#s 48, 49 and 50) have been of similar or even bigger size, at 226, 262 and 343 pages respectively, since they too have included the abstracts of conference papers. In the case of Review # 49, this included the extended abstracts of the five keynote presentations addressing the theme of “Impacts of Climate Change on Marine

Systems”, and in Review # 50 the abstracts for all nine keynote presentations and all oral and poster presentations at the joint NZMSS/AMSA conference, held in Christchurch in 2008, on the theme of “Human Impacts and Functioning Ecosystems”. Early Newsletters were all black and white, typed, photocopied and simply stapled together with a front cover. Wrap-around covers, printed with a marine “flavoured” line drawing, did not appear until # 12 and the first coloured cover not until # 16. The first actual bound copy was Newsletter # 27 (1984), which was also the first to feature a photograph (of black coral) rather than a line drawing on its cover. Spiral binding became necessary from Review # 43 onward, now that the size of each issue exceeded 100 pages, but it was only in 2006 (# 47) that full colour reached the front cover of the Review. It is both regrettable and unfortunate that photographs have been almost completely absent from the pages of the Newsletter/Review, at least until very recently. The first photograph to be included was in Newsletter # 31 (1988). It recorded the presentation of an NZMSS Award to Professor John Morton by the then President, Dr David Schiel. A similar photograph was published in Review # 33, showing the Award being presented to Professor Patricia Bergquist by the next President, Dr Alistair MacDiarmid, but not again until issue # 45 (2004), after the Award had been presented to Dr Dave Schiel by Mr Bob Hickman, the Treasurer at the time. That Review also contained a picture of the Award itself. The photo, together with some accompanying text about the Award and a list of all its recipients, has become a standard item in the content of all subsequent Reviews. Three other black and white photographs appeared in Review # 47 to accompany the 2004-05 President’s Report and the reports from the two students (Kelly Merrin and Jean McKinnon) who had received First Overseas Conference Travel Fund grants in that same year. One of these photos showed a keynote speaker at the 2005 NZMSS/MBIC/MARGINS conference, and the other two depicted the species that were the topics of the students’ talks, namely a deep sea isopod and a southern arrow squid. Review # 49 established a move, maintained in Review # 50, towards colour images in the text, with the inclusion of snapshots of the speakers accompanying their keynote abstracts. Also included were pictures of the NZMSS Award and the 2007 Award recipient Dr Wendy Nelson, and even a coloured map depicting the QMS fishing areas contained in a report from the NZ Rock Lobster Industry Council. With the eminently readable and highly professional appearance of the 50th issue in May 2009, the publication of the Newsletter/Review series has been presided over by 23 editors. Most of them (13) held the reins for just one or two issues and only two of them (Larry Paul and Peter Roberts) managed more than four issues. Each of the Newsletters from 1978 to 1987 (#s 21-30) had two editors. From 1978-1981 one of the editors changed each year, but from 1982 Denis Gordon and Rosemarie Thompson of NZ Oceanographic Institute jointly edited issues #s 25-27, with Mike Beardsell and Geoff Baird of Fisheries Research Division doing so for #s 28-30. Until 1995 (Review # 37) the job of Editor, which has always been an honorary position, was done by a working scientist and Society member. For the following three issues the editing was done on contract by an outside agency, until a decision was made by the Council in 1997 to provide an honorarium to encourage a student to take on the task of editing the Review. Six students have successfully taken on the job since Justine Saunders, a student at Leigh Marine Laboratory, became the first student to hold the position of Honorary Editor. (See Table 2 for more detail of Newsletter/Review publication aspects.)

- **Communication of marine research** – the Society was instrumental in the establishment of a journal to publish the results of the marine research undertaken in New Zealand, much of it by members of the Society.

The New Zealand Journal of Marine and Freshwater Research (NZJMFR) began publication in 1967, after what the NZMSS Council considered to be a remarkably short interval between the Society approaching the Department of Scientific and Industrial Research in early 1966, with a request that it establish a journal of marine science, and the appearance of the first issue of a marine and freshwater journal in March 1967. The need for such a journal was evident from the statistics that by 1970, 14 issues had appeared, carrying 10-15 papers in each issue, for a total of nearly 200 papers after only three years of publication. Society members have strongly supported NZJMFR through the huge number of papers that they have submitted for publication, as well as by acting as referees for the journal's peer review process. The Society itself has been an equally strong supporter, by nominating candidates for its editorial board and by being involved in the occasional reviews of issues such as its publishing policy and its subscription rates, and even its operational procedures, as it has changed from being a government department (DSIR) publication to a Royal Society one. It is ironic that the Council of the Society should currently be involved in a "battle" to ensure the continued existence of "our" journal, the one that the Society was instrumental in bringing into being, and to prevent it being subsumed, together with six other science publications, into a single, all-encompassing Royal Society of New Zealand "flagship" journal.

- **Marine reserves** – the Society led the country along the tortuous path to recognition of the concept of reserving areas of the marine environment for posterity. They were first talked about by the Society in 1966 and first mentioned, albeit briefly, in Newsletter # 9, when the Society was '*examining the possibility of urging the establishment and legal protection of marine and littoral reserves*'.

Even the pragmatists at the time, who '*imagined this is a complex problem and the necessary enquiries and negotiations will take considerable time*', could not have imagined that it would be more than 10 years before the country's first marine reserve, the Cape Rodney to Okakari Point Marine Reserve near Leigh in Northland, would be officially opened on 25th May 1977, with the Honourable Jim Bolger, Minister of Fisheries, the principal speaker at the opening. Dr Bill Ballantine was the moving force behind the establishment of the first in what is now a network of New Zealand marine reserves, and ably assisted over the years by large numbers of students at the Leigh Laboratory and 'marine' staff of the University of Auckland. The Society kept its members informed of progress through the Newsletters and by regular discussion at the AGM, and waded in when it saw fit, by such as by writing to appropriate government ministers about progress of the Marine Reserves Bill through Parliament. The Society's 1970 letter to the Honourable Alan McCready, Minister for Marine and Fisheries, and his reply indicating '*the Government's intention to enact this Bill during the coming session of Parliament*' were included in Newsletter # 13 (and the Marine Reserves Act was passed in 1971). The Council of the Society was consulted about the operation of the Marine Reserves Act in 1973, and made suggestions that it be broadened to include large park-like reserves as well as the typically small reserves principally for scientific study, and that it would be important to have national administration and direction possibly through an independent authority. The Council has been active in making submissions on many of the

proposals for the more than 20 marine reserves that now exist, and in providing advice, from the huge body of marine expertise that exists within the Society membership, to improve the quality of the proposals and the likelihood of them being accepted.

- **Student support** – *From its earliest days, the Society has always known that one of the ways for it to achieve its objective to ‘encourage and assist marine research in New Zealand’ was through support for its student members.*

As early as 1967 the Society subsidised ‘one student each from Auckland, Christchurch and Dunedin’ to attend the annual conference in Wellington, paid out of ‘a sum of about £15 per year’ allocated for the purpose. By 1982 the Society was providing as many as six \$50 travel grants for students to attend the annual conference, as well as a student prize of \$50. By 1992 some 20 students were given travel grants, which by this time had increased in value to \$150 each. A further ten years on and 17 students were the recipients of \$700 travel grants in 2002 at a total cost to the Society of almost \$11900 to attend the joint AMSA/NZMSS conference held in Townsville, Australia. A grand total of 118 students, from New Zealand and overseas, were supported (to the tune of \$77,000) to attend the internationally sponsored conference that NZMSS convened in Wellington in 2005. For several years during the 1980s the Society contributed to the Royal Society’s Prince and Princess of Wales Award scheme, which supported international student travel, before setting up its own scheme in 1990. The Society’s First Overseas Conference Travel Fund was set up to assist postgraduate student members of NZMSS to attend and present a paper on their first foray into the international scientific conference scene. Up to five students have been recipients of the scheme in most of years since its inception, with one of the conditions attached to the funding being to provide a trip report for publication in the Newsletter. The most recent Society initiative to support its student members was the establishment of a student research grant programme, inaugurated at the AGM in 2006. It is intended to help graduate researchers take their work further than academic funding often allows, and at the same time provide exposure for their research. Grants are to be awarded as Society funds allow, with at least one award (initially to be \$2500) expected to be made annually. Applications from a broad range of marine disciplines are encouraged and recipients will present the results of their work at a plenary session during the annual conference. The first Student Research Grant was awarded to Philip Ross of the University of Waikato in 2007 and he presented some results from his research as a keynote address at the 2008 annual conference, with the abstract published in Review # 50.

- **Occasional Publications** – Apart from the annual production of the Newsletter/Review, the Society has over the years been involved in the publication of several occasional documents.

The first of these was the “New Zealand Marine Sciences Directory” published in 1979. The Directory provided a listing of ‘those people directly involved in New Zealand marine scientific activities, whether resident in New Zealand or elsewhere’. It comprised an alphabetical list and a subject index of ‘workers’, together with the addresses of the marine research institutions.

Two reports were produced in the early 1980s. “New Zealand Marine Science: The need for a National Policy” in 1981 expressed the Society viewpoint in the ‘hope that it will provide a stimulus for discussion amongst policy makers by transmitting to

them the views of the majority of the practitioners of marine science in New Zealand. The report opened with a table showing how the effort in marine science was spread across a wide spectrum of organisations, including 11 government agencies, 7 universities, numerous local bodies, and various private sector companies and individuals. The report went on to detail the *'current urgent problems'* in the numerous marine science disciplines, and to advocate for a review of New Zealand marine science and for a National Plan for Marine Research.

The next occasional report was "New Zealand Marine Science. A report by the New Zealand Marine Sciences Society, October 1983". It reiterated some of the material from the previous report (including the table of marine science effort), but focussed more on the rationale for the current major programmes of the main disciplines, and on outlining *'present multi-disciplinary programmes'*. The report called for wise management to realise the maximum potential of New Zealand's marine environment, and a process of management that would first define the resource and then research the functioning of the system, so that management would be based on *'a proper understanding of the interaction of the various living and non-living components of the marine environment'*. The participating organisations and their major programmes were described for each of the marine disciplines, which were categorised as marine geology and geophysics, physical oceanography, marine biology, fisheries research, aquaculture, biological aspects of ecosystem functioning, taxonomy, and other research. Two categories of multi-disciplinary research were identified as *'estuaries, enclosed bays, and inshore coastal waters'* and *'open ocean and continental shelf'*, for which it was felt *'procedures must be established to better integrate these programmes ... to obtain maximum benefit'*. This report came to the same conclusion as had the 1981 report, *'that marine science needs national and not personal goals for its future development'* and it supported *'initiatives to better co-ordinate Marine Science within New Zealand'*.

"Great Leagues Forward" was the title of a 1997 report commissioned by the Society. It had its origin in discussion by the 1993-94 Council, of the possibility of inviting tenders for the preparation of advocacy plans to promote and develop marine science in New Zealand. Following agreement to spend around \$5000 on a tender at the 1994 AGM, the Council signed a contract in 1995 with Ocean Blue Consultants to prepare a plan, which would involve research into the perception of marine science among *'young people considering getting into a career in marine science'* and among *'managers, policy makers and funding agencies'*. The Society wanted to know why marine science is undervalued in New Zealand and what NZMSS can do to improve the situation. The report was finished in 1996 and its recommendations were presented at the annual conference that year in Christchurch. The final report, "Great Leagues Forward: an investigation of the promotion and development of marine science in New Zealand", was accepted by the Council and subsequently *'sent to all major providers of marine research'*. Within the report were *'a number of action points ... to be followed up by the society in the near future'*.

- **NZMSS Award** – The New Zealand Marine Sciences Society Award was inaugurated to provide a way in which the Society could honour *'a person's outstanding contribution to marine science in New Zealand'*.

The Award is a bronze sculpture in the form of the internal spire of a gastropod shell, It carries with it Life Membership of the Society. Since the first awards were

bestowed in 1985 on three scientists from the fields of ocean physics, marine geology and marine ecology, who were considered to be ‘*founders of marine science in New Zealand*’, a further 17 eminent scientists (and Society members), from an equally broad spectrum of marine disciplines, have been honoured in this way (to 2009). Information about the Award itself, the nomination procedure, and the recipients is included in each issue of the Review and is available on the Society’s website (at <http://nzmsr.srnz.org/reviews.html>). Only one other Life Membership (other than those accorded to NZMSS Award recipients) has so far been awarded – to Bob Hickman in 2009 ‘*in appreciation of 20 years of outstanding service to the New Zealand Marine Sciences Society*’.

- **Submissions** – Advocacy on behalf of the interests of marine research in New Zealand is one of the founding objectives of the Society and has been achieved largely through the medium of making formal submissions or sending letters, expressing the Society’s consensus viewpoint.

The approach from NZMSS to the DSIR in early 1996 concerning the possibility of establishing a journal of marine sciences should probably be considered to be the Society’s earliest submission. It might also be considered to be one of its most successful, having achieved agreement from DSIR by late 1966 and publication of the first issue of “New Zealand Journal of Marine and Freshwater Research” in 1967. The Society’s most recent submissions are typical of the diverse range of issues on which the Society has expressed a viewpoint throughout the intervening years; they encompass marine protected areas, NZ’s EEZ, Hector’s and Maui’s dolphin management, RSNZ journals, coastal policy, Bay of Plenty conservation, and seaweed introductions. The latest list of submissions, perhaps surprisingly, does not include the one issue on which the Society has over the years made submissions most frequently, namely marine reserve proposals. Since 2006 the Society’s submissions have been posted on its website, prior to that they were generally communicated to the membership through the president’s report to the AGM.

The Society Itself

Rules and constitution – The Society operates under a set of rules which define its name, objects, membership, subscription, officers, council, finances and meetings, and specify how to interpret and alter the rules or wind up the Society. The Society is a non-profit organisation approved by the Registrar of Incorporated Societies, under Certificate of Incorporation WN/666665 dated 19th April 1999, for the IRD’s tax exemption status. The Rules of the Society were (presumably) accepted by the first AGM in May 1961. Apart from one minor change in 1982, when the wording of Rule 2(b) was altered from ‘*engaged in research*’ to ‘*interested in research*’, the rules remained unchanged until 1987. At that year’s AGM, the then Secretary, Cameron Hay, proposed numerous rule changes. These mainly applied to ‘*the levying (sic) of subscriptions*’. Cameron Hay pointed out that ‘*technically the subscription is still five shillings [Rule 4(a)]*’, and he noted that previous Councils had been informed in 1977 and again in 1981 of the need to update the rules but no revisions had been undertaken. Rule changes affecting membership and subscriptions and the newly established NZMSS Award were adopted in 1987; other proposed changes about the use of Society letterhead paper and right of admission to Society conferences were rejected. The only other revision of the Rules occurred in 2001 when a set of changes

proposed by Bob Hickman, then in his second multi-year term as Treasurer, were passed unanimously at the AGM, which somewhat ironically was the first Society AGM held outside New Zealand when it took place at the joint AMSA/NZMSS conference in Townsville, Queensland on 6th July 2001. Even after such a long period of use the Rules had evidently “stood the test of time” since these latest changes were largely just to tidy up the wording, to establish the new position of Membership Secretary as a council office bearer, and to allow for an increased number of elected members to assist in the work of the council. Two changes were required by the Internal Revenue Department to enable NZMSS to retain its tax exemption status as a non-profit incorporated society. As amended in 2001, these are the rules currently governing the running of the Society; they are printed in each issue of the Review (as well as being available on the Society’s website).

Affiliations – The Society has been affiliated as a member body of the Royal Society of New Zealand (RSNZ) since 28th August 1969. Affiliation has enabled NZMSS to contribute to RSNZ discussion, deliberations and decisions on science matters at a national level, through participation, usually by the President, in meetings, almost always held in Wellington, of the member bodies committee. As a member body, NZMSS has been able to influence decisions concerning publication of the New Zealand Journal of Marine and Freshwater Research since it has been under the control of the RSNZ. For a period in the 1980s the Society availed itself of a service offered by the RSNZ for auditing the NZMSS annual financial report. The Society has had affiliations with other organisations at times during its history, such as the New Zealand Committee for Water Pollution and the Federation of New Zealand Biological Societies in the mid 1980s, but these have generally been of short duration. In recent years the Society has opted to resist requests for affiliation in an endeavour to maintain a position as a fully independent advocate on marine science issues.

Council/Officers – The Society’s Rules have required the election at each AGM of a Council, consisting of the officers (President, Vice-President, Secretary and Treasurer), the Immediate Past President, and five Members (or *at least 5 Members*, since the rules changes in 2001). Apart from the President and Vice-President who are restricted to two-successive-year terms, all Council members are eligible for immediate re-election. The Council’s power ‘*to appoint members to fill any casual vacancies*’ has been used on occasions to appoint regional and/or marine laboratory representatives, and more recently to elect people to serve as membership secretary, webmaster, Review editor, and as student representatives. Table 3 lists the Society’s office bearers for the period 1960-2009. The Society has been well served by almost 50, highly regarded scientists who have been elected to the positions of President or Vice-President. In the early years there was generally an annual turn-over in these positions, but since 1980 those elected to “high office” have usually served their two-year term, with three of the Vice-Presidents actually (and unconstitutionally) serving three- and even four-year terms. The Society was served by 12 members as Secretary/Treasurer from 1960-1983, before a separate position of Treasurer was established, and subsequently by 11 secretaries and 12 treasurers (to 2009/10). The position of Secretary, probably the most onerous on the Council, has, at least in recent years, often been occupied for three or even four years, providing a valuable degree of continuity to the Council’s operations. In fact the present Secretary, Dr Alison MacDiarmid, is currently (2009/10) serving her sixth year in that position. Over the 25 years since the position of Treasurer was established, Mr Bob Hickman held the

office for 12 years, a stint of five years in the late 80s to early 90s and a further seven years between 1997 and 2004. Equally important to the successful operation of the Society, particularly from the perspective of having nationwide representation and viewpoints, has been the large number of its members who have served on the Council. A list of Council members, compiled from information contained in the Newsletter/Review publications, gives the names of well over 120 members who have served the Society in this capacity (see Table 4). This list understates the true total, because it was not possible to find names for Council members in some of the earliest years. The list shows that numerous members have served several-year terms on the Council, generally over consecutive years but sometimes with gaps of up to five or even ten years. Kathy Walls holds the record for the longest continuous service at eight years from 1996 to 2004, with Dr Janet Bradford having racked up nine years as a Council member, during two separate periods of service in the 1970s and again in the mid to late 1990s (not to mention the couple of years that Janet served as secretary/treasurer and her two periods as vice-president!).

Membership – From the initial ‘50 interested persons’ who attended the Society’s first meeting in 1960 the membership had grown to 103 by 1965, with all of them listed on pages 71-75 of Newsletter # 6. The Council undertook an active campaign for new members during 1966/67, ‘very largely through personal contacts’ but supplemented by sending copies of Newsletter # 8 to several departments at each university and to museums and government research agencies working in marine science. The campaign appears to have been highly successful, taking the membership up to 143 by March 1967, to 173 by October 1967, and with 35 new members reported in 1968 (see Newsletter #s 8, 10, 11 respectively) At this time there was just the one class of membership including ‘libraries, departments, etc’ and no separate student membership (see Newsletter # 9, page 5 for a breakdown of the membership). Membership had reached 250 by the end of the Society’s first decade, and was around 320, including some 60 overseas members, by the time the Society had been in existence for twenty years in 1980. The membership was recorded as being between 160 and 260 throughout most of the 1980s, the apparent reduction in numbers possibly a consequence of significant increases in the annual subscription rates that came into force in 1981 and 1983 and again in 1986 and 1989. Membership fluctuated between 300 and 400 throughout the 1990s, year to year variations probably more a reflection of the numbers of members who had paid their subscriptions on time than of gains or losses of actual members. This is borne out by the anomalous figure of 162 as the reported membership total in 1997, that occurred after the first increase in dues for almost 10 years (and consequent tardiness in payment of subscriptions), which was followed by a total of 400 as the membership for 1999. Membership figures have been more reliably accurate since the decision in 2000 to appoint a membership secretary as a position on the Council, to deal exclusively with membership issues. In recent years the membership has been around 250-300, with the latest figure of 239 for the 2008/09 year, comprising 125 Full members, 93 Student members, 6 Institutional members, and 15 Life members.

Subscriptions – The annual subscription was (presumably) set at 5/- at the inaugural AGM of the Society in 1960 and remained at this modest level until 1966. Although the Society’s financial position was then considered to be ‘very sound’ it was suggested that the subscription be raised ‘perhaps to 10/-’ to allow accumulation of a fund ‘to finance any future project or undertaking of the Society’ and ‘to allow easier

payment of annual dues (since) 5/- tends to be forgotten about'. With decimalisation in July 1967 the subscription became \$1.00 for the next several years. On the 1st April 1971 the Society instituted a range of categories of membership and increased the annual subscription for a full New Zealand member to \$2.00, whilst leaving the rates for 'NZ students and overseas members, \$1, NZ and overseas libraries, \$1'. After another five years the annual subscriptions were raised to \$4.50 and \$2.00 for full and student members respectively and to \$3.00 for overseas and library membership in 1976. It was a further five years before the rates were raised to \$12 (full) and \$8 (student) and \$10 for institutions in 1981, but only two years later they went up again to \$15 and \$10, with institutions remaining at \$10, although overseas institutions were charged \$11. For each of these increases an incentive for early payment was provided in the form of a \$2 reduction if the subscription was paid by August 31st. Two more rate increases occurred during the 1980s – in 1986 to \$18 (full), \$11 (student), \$12 (institutions) and \$13 (overseas institutions), and in 1989 to \$25, \$15, \$20 and \$25 respectively. Reasons for the substantial increase in subscription rates required in 1989 were cited as *'the costs of newsletter production and postage, affiliation to various committees and bodies, and support for various award schemes ... deficits registered both for 1985/86 and 1986/87 ... in addition to the Society's low cash asset level'*. The 1989 adjustments also included two new membership categories, namely Retired Members, whose subscription was set at the student rate, and a novel new category of Corporate Member at \$250 per annum, although the records indicate that there was subsequently only ever one corporate member, and for only a few years. It was not until 1997 that a further increase in the subscription rates was deemed necessary, if the Society was to continue or increase its level of expenditure on items such as student support, travel grants and publication of the Review, and new rates of \$45 for full members, \$20 for students and retired persons, and \$45 for institutional membership were implemented. These subscription rates remain current to at least 2010. Recipients of the NZMSS Award are accorded life membership of the Society and pay no subscription.

Financial management – The Society has operated under the same simple set of financial instructions since its inception. Rule 7, Finances (a-e) vests *'the control and investment of the funds of the Society ... wholly within the power of the Council'*, with the treasurer and any two officers or members of the Council to be the trustees of any bank accounts, two trustees being required to sign any cheques, and *'the Society shall not have the power to borrow money'*. Throughout most of the Society's history its financial position has been, in words used by the 1966 Council even when considering the first increase in the annual subscription, *'very sound'*. Also, throughout the whole fifty years of its existence, the Society's one reliable source of income for funding its expenditure has been from subscriptions. Thus for example in the early 1980s, the subscription income of around \$900 a year roughly equated to the Society's annual expenditure on Newsletter publication, postage, stationery and Royal Society affiliation. Subscription income was supplemented on occasions by small surpluses made from running the annual conference and by interest earned on the modest cash reserves held in the Society's bank account, and these allowed the funding of student travel grants. Production of the Newsletter was for many years the Society's major expenditure. Changing publication and distribution techniques meant that the cost of publishing the Review became less significant, at the same time that expenditure on grants for student travel and other awards assumed much greater significance. The simple financial management practice, found to be satisfactory for the Society's

purposes, was the classic method of double entry book-keeping, with all the transactions of expenditure and income since 1976, and up until 2006, recorded manually in the treasurer's "big red book" – a *Collins Cathedral Analysis Book No 174*. In the earliest entries in the book, all the subscription fees and the conference registration payments, together with their receipt numbers, were individually recorded, as were the names and amounts paid to students as travel grants, or to the best paper presenters at the conference (which in 1976 were two \$5.00 prizes for "best paper" and one \$10.00 prize for "best student paper"). In 1977 it was apparently possible to put on the conference dinner for under \$550, including \$12.00 for 'crockery hire'. The records also show that numerous recipients of student travel grants have repaid the "investment" in them, by later serving the Society in a range of capacities on its Council. Until very recently payment of the student travel grants (which peaked at a total of more than \$6000 for students attending the "international" conference in August 2005) was taken directly from the Society's operational account. However, in the past couple of years student eligibility for these grants has been rationalised so that they can be paid out as part of the organisation of the annual conference, before the overall surplus on running the conference is determined.

The NZMSS Financial Report '*for the year ended 31st March*', prepared by the Treasurer and presented annually at the AGM, has been published in the Newsletter and Review since 1998.

The History of the NZMSS and Marine Science in New Zealand - as recorded in the New Zealand Marine Sciences Society Newsletter and Review

This series of publications is the “who’s who” and the “what’s what” of marine science in New Zealand. It provides the quintessential record of the people, places and events that make up the history of marine science in this country since the Society came into existence in 1960.

The First Decade, 1960-1969

There are no records remaining that report any activities conducted on behalf of the Society by its interim committee, between the initial meeting on the 16th May 1960 and the first annual meeting on 18th -19th May 1961, apart from the preparation and distribution of Marine Sciences Newsletter No 1 in February 1961.

(i) 1961-1964 (Newsletters # 1-4)

The first Newsletter, published in **1961**, set the style for the next three issues, # 2 in June 1962 edited by John Bullivant, # 3 in July 1963 edited by David Pawson, and # 4 in September 1964, which was the first of nine Newsletters compiled by the Society’s longest serving editor, Larry Paul from the Fisheries Laboratory of the Marine Department in Wellington. Each Newsletter comprised a short editorial commenting briefly on ‘*significant trends which (had) occurred in marine research during the previous year*’, notice of the upcoming NZMSS annual meeting, reports on the year’s research activities, including staff publications, from the various universities and government institutions involved in marine science, together with an eclectic mix of comments and articles on topics as varied as the future of marine biology in New Zealand, the comings and goings of marine scientists and research vessels, hunting the pearly nautilus, honours bestowed on New Zealand marine scientists, and requests for information or specimens.

Intriguingly, each of the editors over these three years included in their editorial the words ‘*it is to be hoped ...*’, reflecting perhaps something of the optimism of editors as well as the aspirations of the marine science community at the time! Dr Dick Dell’s comment in his 1962 address to the Biology Section of the NZ Royal Society (as reported in Newsletter # 2), that ‘*it seems probable that by 1970 there should be a more or less complete picture of the New Zealand fauna*’, could not have anticipated the advent of the EEZ. Mr Bob Wear’s request (in Newsletter # 4) for ‘*any person who hatches the eggs of ovigerous Brachyura (to) send them to him, together with the adult female*’ may also have been overly optimistic, even in a student just starting his PhD.

A prominent feature of this period was the development and expansion of the facilities for marine research within the universities. Newsletter # 2 reported that Canterbury University’s Edward Percival Marine Laboratory (EPML) at Kaikoura was open for use in early **1962**, although it was ‘*not yet fully completed*’ because ‘*at a later date a seawater circulation system will be installed.*’ Newsletter # 3 reported both the opening, in January 1963 at Goat Island Bay near Leigh, of the University of

Auckland's marine biological laboratory complete with '*an open seawater circulation system*', and the official opening of EPML, which took place on 9th March **1963** even though '*funds are not yet available for permanent aquaria*'. In the same year, Victoria University approved the purchase of a fishing boat called the "Hawera" as a research vessel for its Zoology Department. Also in 1963, the inaugural meeting of NZMSS's sister (or should that be big brother) organisation was held in Sydney in May; the Australian Marine Sciences Association (AMSA) espoused '*aims and objectives closely parallel (to) those of the New Zealand Society*',

In Newsletter # 4 in **1964** it was the turn of Otago University to announce an addition to its marine facilities, namely the purchase of a 45 feet long sea-going trawler as a research vessel for its Portobello Marine Biological Station. The '*£13,500 for the purchase ... together with £6000 p.a. for 5 years of operating costs*' came from a Golden Kiwi grant - oh that a research vessel could still be bought and run for five years on \$87,000! And following hard on the heels of its purchase of a research vessel the previous year, was Victoria University's '*major acquisition*' of '*buildings totalling 6000 square feet ... formerly the fish-liver oil factory belonging to Glaxo Laboratories ... on a site of almost 1½ acres ... fronting Cook Strait*' for setting up a VUW Marine Laboratory. Also reported in this issue of the Newsletter is the resignation of K Radway Allen as Director of Research in the Marine Department, and the anticipated move of the acting Director, Dr Richard Pike, to a senior lectureship at Victoria University. Notwithstanding the changes at the top, the Marine Department's Fisheries Laboratory staff had increased to the extent that '*in the near future a move will be made ... from the three buildings in Wingfield and Mulgrave Streets ... to more convenient buildings elsewhere in Wellington*'. The Laboratory's staff already included a number of scientists who subsequently had eminent careers in fisheries research and management, including Margaret McKenzie, Barry Tunbridge, Dave Gaskin, Dave Stead, Bob Street, John Greenway, Don York, Larry Paul, Rex Mundy and Bob McDowall. The NZ Oceanographic Institute's report for the year included a list of no less than 39 '*systematists from outside the Institute (who) are working on biological material obtained during particular (NZOI) research projects and who are supplying reports for one or other of the Institute's series of publications.*'

(ii) 1965-1967 (Newsletters # 5-10)

Two Newsletters were published in **1965**, # 5 in May and # 6 in August, following a recommendation made at the Society's AGM in February '*that the Newsletter be distributed at quarterly intervals with one main issue and three smaller issues to keep abreast of news of immediate current interest.*' This ambitious target, which was evidently accepted by the NZMSS Council, necessitated the then President Dr R Morrison Cassie, to urge, in his Presidential Note that prefaced Newsletter # 5, that anyone with news of meetings, cruises, research developments or anything of general interest, should '*please pass it on to Mr Paul (the editor) and please do so promptly.*' The proposed quarterly schedule for the Newsletter anticipated that issues would appear in February, May, August and November, with the August issue being the main one for the year. Accordingly Newsletter # 5, the May 1965 issue, was a slim volume of only 14 pages, but included within these pages were the announcement of the next NZMSS meeting to be held during 10-14th February 1966 at EPML in Kaikoura, and also the news that Dr W J (Bill) Ballantine had moved in as the

'resident biologist at Leigh Laboratory ... on Thursday, April 22nd (marking) the beginning of a new and exciting stage in the Laboratory's development ... his first action being to repair the main pump on the fore-shore.'

The August 1965 issue (Newsletter # 6) was, as the main issue of the year, a much more substantial 76 page publication, which under Larry Paul's continuing editorial direction, contained several innovations. As well as the usual editorial and annual reports from the four universities, the NZOI, the Marine Department, and the Dominion and Auckland Museums, it also had items on marine activities in the Solomon Islands, Australia, Harvard University and the Pacific, together with revised dates (4-7th February) and a tentative programme for the annual meeting of the Society to be held at EPML, with accommodation available at the Laboratory for up to 32 and possible hire of *'1 pillowslip, 2 sheets and 2 blankets at 1/9 per day.'* Particular innovations in Newsletter # 5 included three book reviews, and separate bibliographies listing by author all the marine science papers published (n = 128), in press (n = 53) and in preparation (n = 8) for period January 1964-July 1965. Also included, for the first time in the Newsletter, was a 'society page' giving the names of the Officers and Council members for 1965 and brief notes about the Society, along with a 5-page listing of the Society's members, all 103 of them, together with their work addresses – privacy issues evidently not being seen as a problem in those days!

Anecdotal information contained within the pages of Newsletter # 6 included (i) the initiation, by Bill Ballantine, of climate and shore-based monitoring at the Leigh Marine Laboratory, which was the start of what has now become one of the longest continuous environmental marine data sets in New Zealand, (ii) the sale of VUW's launch "Hawera" to pay for *'a new boat, a 43 feet steel trawler, under construction at Nelson ... to provide trawling gear and other facilities not available on "Hawera", plus much more room and versatility'*, (iii) the construction a 10,000 gallon seawater reservoir at EPML making seawater, of a quality that *'has been proved by successful rearing of larvae'*, freely available, (iv) news of a 46 feet ocean-going research vessel under construction for the Portobello Marine Station and expected to be functioning by the end of 1965, and (v) the formation of two separate divisions - a Fisheries Division and a Fisheries Research Division - within the Marine Department (following a recommendation from the National Research Advisory Council), with the appointment of Mr J W (Jim) Brodie to succeed Dr Richard Pike as Acting Director of Research.

The Society failed to meet the optimistic publication schedule of four Newsletters per year – in the editor's words *'our members' desire to receive newsletters is greater than their desire to write for them'* – but for the next couple of years smaller *'brief, more informal issues'* were published in April (1966) and in May (1967). These provided the opportunity for more timely reporting of Society meetings, such as the AGM held in Kaikoura in February 1966 (reported in Newsletter # 7) and the summer meeting held at Leigh Laboratory in February 1967 (reported in # 9). Newsletter # 7 was in fact almost entirely a summary of the papers presented at the **1966** annual conference, which had included two symposia, one on "New Zealand plankton studies" with papers by John Jillett, Bob Wear and Janet Grieve, and a second entitled "A blue-print for NZ marine sciences", with speakers Drs Betty Batham, Richard Pike and Bill Ballantine, and chaired by Dr John Morgans. One highly significant outcome from the "blue print" discussion was a proposal, made by Professor George Knox and

unanimously supported, that the Department of Scientific and Industrial Research (DSIR) should be asked about the possibility of starting a journal of marine science. A motion to this effect was subsequently put to the fifth AGM of the Society, held later on the same day as the symposium (5th February 1966), which '*instructed* (the incoming Council) *to approach the DSIR concerning the establishment of a Journal of Marine Science.*' This first publication in the Newsletter (in # 7) of the Minutes of the NZMSS AGM, also recorded that the incoming Council was asked to investigate the availability of grants from the Royal Society for post graduates to travel – this being the first mention of this activity, namely supporting students to attend scientific meetings, that has been a major aim of the Society ever since. Subsequent examination of the Proceedings of the Royal Society revealed that it was permitted to make '*modest grants in aid of research on New Zealand zoology, botany and geology (out of) the revenue from the Hutton Memorial Fund ... (approximately £65 per annum) and from the Mappin Trust (£42).*' Modest indeed, by comparison with the level of funding (almost \$6250 in 2006) that the Society itself is now able to provide to support students travelling to present papers or posters at its own conferences!

The second and main Newsletter of 1966 (# 8, published in September) contained the now expected annual reports from university and government research organisations, and bibliographies of recent and up-coming publications, as well as a report on the '*very successful meeting of the Society held at Victoria University from August 22nd to 24th, 1966.*' This report included summaries of about half of the papers presented at the conference, which illustrated well the breadth of research in marine science at the time, with contributions from palaeontologist Dr Ian Speden, fisheries scientist Dr Craig Kensler, crustacean biologist Dr Richard Pike, oceanographers Mr Colin Summerhayes and Mr Ivan Estcourt, parasitologist Mr Gordon Hewitt, ecologists Drs Dick Dell, Bill Ballantine, John Morton and Mr Sebastian Rainer, and geologist Mr Murray Gregory. The editorial in this issue reiterated a warning, first given by AMSA about the material published in their Newsletter, that '*the Newsletter should not become a vehicle for publication of new scientific material in spite of the fact that technically it does fall into the category of a periodical.*' Coincidentally, the editorial also suggested that '*members should note with pride the recent announcement of the formation of a new journal dealing with New Zealand marine and freshwater research*' to commence in early 1967, whilst expressing some surprise at this remarkably prompt response to the Society's request that such a journal be started. Also tucked within the 70 pages of Newsletter # 8 were some historically significant anecdotes, such as the arrival of Victoria University's new marine research vessel "Tirohia", which was being put to good use by Dr Ed Slack for pelagic surveys in Marlborough Sounds-Tasman Bay and for pilchard biology investigations by Mr Alan Baker; also the launch of Otago University's research vessel "Munida" (to be skippered by Mr Bill Tubman) and its fitting out (under the supervision of Mr Alex Black) ready for use by Mr John Jillett, newly arrived from Auckland to work on Otago planktonic crustacea. Also newly arrived, but from the UK, was Mr Duncan Waugh seconded from MAFF's Burnham-on-Crouch Fisheries Laboratory to the Fisheries Research Division for a 3 year period, to work on the biology of rock oysters. A letter from resigning Council member Dr John Morgans, who was leaving to take up the post of Director of the South African Association for Marine Biological Research, suggested that a more '*businesslike*' approach from New Zealand government departments and universities to their administration and deployment of resources might diminish the '*irritations and stagnation of scientists ... to the point*

that relatively poor salaries would be cheerfully endured.’ Have things changed much in the intervening 40 years?

The third short Newsletter (# 9 issued in May **1967**), rather than establishing a ‘*biannual schedule*’ as had been suggested by its editor Larry Paul, turned out to be the last one of this style, and the Newsletter series subsequently settled into a once-a-year publication routine. Interestingly, contained within the 12 pages of Newsletter # 9 was first breakdown of the membership, which by March 1967 had reached just over 140. The membership was broken down in three ways, (i) by occupational discipline, with by far the majority (91 out of 143) recorded as ‘*zoologists*’, (ii) by employer organisation, with Auckland University having 21 members, closely followed by DSIR with 18 members spread across six of its divisions, and (iii) by geographical distribution, which showed the highest number (53) in Wellington, followed by Auckland, Christchurch and Dunedin, but there were also 30 overseas members. The question was also raised in this issue, now that the subscription had been increased from 5/- to 10/- (and soon to be \$1.00 from decimalisation day on 10th July 1967!), of whether there was a need for the creation of more than one type of membership, such as corporate and student membership categories. Although it was decided that ‘*at the present low subscription cost ... student membership at reduced rates ... was not yet relevant*’, the Council did allocate ‘*a sum of about £15 per year ... to subsidise the attendance of students at the annual conference*’ which would allow for ‘*one single fare ... for one student each from Auckland, Christchurch and Dunedin*’ to attend the August 1967 conference in Wellington. Some things certainly have changed in the intervening 40 years!

It was the second Newsletter of 1967 (# 10 published in October) that set the pattern for the ensuing annual issues of what had by then become **the** ‘*informal publication designed to keep New Zealand marine scientists up to date with each other’s work, and to inform overseas scientists of recent and current New Zealand work*’, although with the proviso that ‘*this work is largely unpublished, and accounts ... cannot be reprinted or quoted as a reference without permission from the person concerned.*’ The pattern comprised an editorial, followed by the annual reports from the universities (the inclusion of Massey bringing the number up to 5) and from the various institutes and agencies (3 museums, the Naval Research Laboratory, 2 Marine Department divisions and 4 divisions of DSIR). The rest of each issue comprised a collection of notes and news, comings and goings, book reviews, abstracts of papers presented at the annual conference, and not forgetting the bibliographies of papers published, in press, or in preparation by New Zealand marine scientists. Included in the “rest” section of Newsletter # 10 were items on

- paua pearls - with Dr Charles Fleming reporting that ‘*if a New Zealand commercial firm were willing to exploit this product, Japanese specialists who have developed the process would offer free accommodation and tuition to train technicians to undertake the specialised operations necessary*’,
- marine reserves - with a letter from the Honourable W J Scott, Minister of Marine supporting ‘*whole-heartedly*’ the Society’s initiative to get the first marine reserve established at Leigh, and agreeing that ‘*such reserves are definitely desirable, if not essential, in the New Zealand environment*’,
- marine stations - a recently published pamphlet giving full details of the four university marine stations was to be distributed with the Newsletter,

- overseas mailing of the Newsletter - following the ‘*very good response*’ to the 100 copies of Newsletter # 8 that were sent to ‘*marine stations and major seaboard universities throughout the world*’, copies of this Newsletter were being sent to some 80 institutions which had indicated interest in receiving future issues. This publicity effort was intended ‘*to make the work of New Zealand marine scientists more widely known, and to help establish personal contacts with overseas scientists who may be carrying out research projects with some bearing on New Zealand work*’, and perhaps get some overseas subscriptions as well,
- abstracts of papers from the annual conference filled 17 pages and the bibliography of 1966-67 publications took up a further 23 pages,
- and the Rules under which the Society operates were published in the Newsletter for the first time; they included the requirement that ‘*the common seal of the Society shall be in the custody of the Secretary (or Secretary-Treasurer), who shall ... affix the same to all instruments requiring the same.*’ Is this one example of a marine seal that has gone extinct within the last 50 years!

The next decade (1968-1977) saw the Newsletter published annually, but with a gradual slippage in its publication date from October for the first five, to November for # 16 in 1973, and to December for the last four. During this decade Larry Paul edited a further two issues to bring his impressive tally to nine Newsletters over a seven year period. Larry handed over to Frank Dromgoole, who steered it for two years and two issues, before passing the job to Peter Roberts for an editorial stint of five years, and then on to John McKoy (see Table 2).

(iii) 1968-1969 (Newsletters # 11-12)

In his editorial to Newsletter # 11, published in October **1968**, Larry Paul reiterated the aim of the Newsletter as the provision of ‘*informal but informed chatter*’ with any ‘*stuffy writing best left for the scientific journals*’. He also raised the question of whether the Society should attempt one or both of two suggestions made during the year, that the Society prepare ‘*a directory of New Zealand marine scientists similar to that recently prepared by the Australian Marine Science Association*’ and ‘*a bibliography of the most relevant papers in the various branches of marine science in this country*’. Included in the reports from the five universities in this issue were comments from Auckland on ‘*the very large increase (approx. 100% over 1967) in the usage of the (Leigh) laboratory*’; from Massey on the ‘*research activities of New Zealand’s only two inland marine mammalogists*’ (Mr D E Gaskin and Dr J Ling); from Victoria on what must have been the earliest ‘*designing and testing of experimental mussel farming equipment*’ for use in the Marlborough Sounds; from Canterbury on how its Kaikoura marine laboratory is ‘*filled to capacity during the term vacation with undergraduate courses*’; and from Otago on the ‘*welcome development of the establishment of two joint lectureships between the Marine Station and the Otago Zoology Department ... filled by Dr John Jillett and Dr Barbara Williams*’. Reports from government agencies included

- the Naval Research Laboratory, which had been ‘*significantly affected by the withdrawal from service of our research ship RNZFA Tui*’;
- the DSIR (NZ Oceanographic Institute and NZ Geological Survey);

- the Marine Department (Fisheries Division and Fisheries Research Division), with the capabilities of the latter division having been expanded by the addition of four new staff, namely Jonathan Lesser, Roger Coombs and Peter Redfearn from the UK and Carel Vooren from Holland;
- the Fishing Industry Board, which was *'concerned with seeing that the results of marine research investigations carried out by scientific bodies are available to and made use of by members of the fishing industry'*;
- the Department of Internal Affairs (the Dominion Museum and the Wildlife Service);
- and the Auckland Institute and Museum, which was undertaking *'a programme of rebottling and cataloguing of (its) existing marine collections'*.

The two 1968 conferences, the summer one in January at the Edward Percival Marine Laboratory in Kaikoura and the annual conference held at the Fisheries Laboratories in Wellington in August, were extensively reported in Newsletter # 11. Both were addressed by NZMSS President Dr Richard Pike who saw a role for the Society as *'a link between the Universities, the Government Oceanographic and Fisheries organisations, the Museums and the individual workers'* and also as a medium (through its conferences) for encouraging discussion of ideas amongst *'people with an interest in marine topics'*. Issue # 11 also contained a list of contacts at 25 underwater clubs from Northland to Southland who had *'expressed their willingness to assist marine scientists, to the best of their ability, in their own local areas'*, a list of 12 New Zealand publications in marine science (including NZJMFWR costing \$6.00 per annum!), a list of 35 new members, brief mention of *'the long-awaited book by Professor J E Morton and Dr M C Miller, "The New Zealand Sea Shore" (Collins, 638 pp, \$9.60)*, and twenty pages of citations of papers published or in press in 1967-68.

Larry Paul contributed his last Editorial in **1969** in Newsletter # 12, in which he drew the Society's attention to its upcoming 10th anniversary, and to the increasing awareness of marine science in New Zealand as reflected in the Society's steadily increasing membership, which had reached 250. Indicative of this *'increasing awareness'* at this time was the high level of *'marine science'* activity at all of the universities and particularly their marine laboratories. Another busy year at the Leigh Laboratory, with three PhD's and four MSc's as well as BSc Hons students, was recognised in the appointment of Dr Bill Ballantine as Director. As Director, Dr Ballantine was able to *'salvage'* the Auckland University Physics Department's *'programme of ocean acoustics'*, which had been suddenly halted by the decommissioning of the naval research vessel "Tui", by housing the amplitude fluctuation recording apparatus in the laboratories buildings and having the hydrophones and transducers anchored in the bay, rather than suspended under the "Tui". Victoria University's Island Bay Laboratory was reported to be *'still overcrowded in spite of the additional accommodation'*, not surprisingly with twelve students (A Baker, J Booth, R Cooper, T Dyer, D Elder, D Flaws, B Godfriaux, J McKoy, K Nairn, L Ritchie, J Ruck and P Todd) based at the laboratory, together with the Director Dr Richard Pike and recent PhD Dr Helen Rotman. New field courses had increased activity at Canterbury University's Kaikoura marine laboratory. Otago University's Portobello Marine Biological Station reported the completion of three major postgraduate theses (by Robin Crump on asteroid biology, Sebastian Rainer on shallow shelf benthos and Gavin James on flatfish biology), extensive use of RV "Munida", which included *'providing key support and transport'* to the Otago

University Science Students' Association Dusky Sound Expedition, as well as use of the Station by staff from the University's Anthropology, Geology and Zoology Departments and at least eleven visitors from overseas and New Zealand universities and government agencies. '*Marine science awareness*' was also reflected in a further increase in staff at the Fisheries Research Division (with the addition of scientists Mani Dinamani, Bob Hickman, Gavin James and Peter Roberts), in the acquisition of a new research vessel, "James Cook", a 136 foot stern trawler previously called "Sea Harvester II", and in the arrival of Dr Dave Eggleston from the UK to take on the role of directing the work of the Fisheries Division staff, who included Bob Street, Gordon Crowther, John Greenway, Roger Brown, Alan Coakley, Don York, Brian Webb, Peter Nixon, Loo-chi Hu and Dave Stead.

Newsletter # 12 included the usual bibliography of papers published and in press (for 1968-69) which amounted to 21 pages, and a separately numbered 13 page "Directory of New Zealand Marine Scientists", comprising alphabetical lists of the names and addresses of NZMSS members and of NZ marine institutions, plus a listing of NZ marine scientists according to discipline (Botany; Zoology; Chemistry, Biochemistry and Physiology; Oceanography; Marine Geology; Anthropology; General). The lists were prefaced by comment that it was '*only a preliminary Directory (since) some members did not return the small questionnaire and their interests had to be listed by the compilers (who were nevertheless) delighted to find such a wide range of interests and activities among our members; this gives the Society much greater influence and effectiveness than if it was limited to a few dozen academic scientists.*'

Larry Paul signed off his long editorial tenure by reiterating that the Newsletter is an informal publication not to be reprinted or quoted as a reference, with any members ignoring this request to be '*boiled in fish oil, tarred and albatross-feathered, and helped on their way with the aid of a large sea-boot.*'

The Second Decade, 1970-1979 (Newsletters # 13-22)

If the Society's first decade was one of "*increasing awareness*", then the second decade was surely one of realisation and attainment, both for the Society and for New Zealand marine science, the two being without doubt highly interconnected.

1970

Frank Dromgoole had the privilege and/or responsibility of editing the Newsletter (# 13) in the Society's 10th anniversary year at the start of its second decade. He noted two aspects of New Zealand marine science development, namely '*the lack of incentive to explore and exploit our biological and mineral resources*' and '*the need to attract suitably qualified research workers into the applied marine sciences*', that might benefit from a more applied focus to the theses of the large number of students who constitute a '*more or less untapped reservoir of research workers*.' In his 1970 Presidential Address, Professor R F H Freeman described the achievements of the Society as '*absolutely incredible ... the expansion of its membership, of its activities, the influence it has exercised in marine sciences, have the time scale, not of ten years, but of more like 50.*' For his address the President had selected items from the existing twelve issues of the Newsletter '*to substantiate his amazement at the achievements of these 10 years.*' From his academic perspective Professor Freeman was encouraged by the increasing number of 'marine' focussed theses emanating from New Zealand universities. His analysis of the Union List of Higher Degree Theses having shown some 43 theses (or nearly 50%) categorised as "marine biology" in the list covering 1963-67, as compared with only 25 (or 19%) in the 129 theses listed for the whole period from 1910-1954. The address, which occupied five pages of the Newsletter even though '*because of limitation of space some sections ... had to be omitted*', also discussed the distinct lack of experimental studies in New Zealand marine science and the possibility of '*a feeling abroad that a Society otherwise representing fisheries research, systematics and ecology would not be interested.*' Newsletter # 13 included several unusual items within its pages, such as letters to and from the Hon Alan McCready, Minister of Marine and Fisheries, on the topics of marine reserves and international seabed rights and a letter in response from the Hon Keith Holyoake, Prime Minister. There were also items commenting on the need for a National Marine Sciences Council and on '*the rising tide of literature*' on marine pollution.

The diversity of marine research conducted at the Dominion Museum at this time was well exemplified in its report on the work of Dr Dick Dell on deep-water crabs and molluscs, of Dr John Yaldwyn on shrimps and prawns, of Miss Nancy Adams with the 4000 specimens in the algal herbarium, of Dr Alan Baker on echinoderm systematics and cetacean strandings, of Dr Frank Climo on marine and terrestrial molluscs, of Mr Fred Kinsky on little blue penguins, and of Mr Jock Moreland's work on cataloguing New Zealand fish. At the same time it must have been the students putting in most of the marine research effort at Victoria University, and benefitting from the installation of '*the long awaited salt water supply ... and concreted wet area*' at the Island Bay Marine Laboratory, since Professor Jack Garrick, and Drs Ed Slack, Gordon Hewitt and Bob Wear were all reported to be on sabbatical or overseas leave. As at the Island Bay laboratory in the previous year, in 1970 the Portobello Marine Station was reporting pressure on the space available for research to the extent of '*research students overflowing into unsatisfactory accommodation in the teaching laboratory.*' Nevertheless Drs Betty Batham, Barbara Williams, John Jillett and

Margaret Pilkington had been joined by three new PhD students, namely Uday Raj (osmoregulation in flatfish), Don Robertson (larval teleosts) and Kim Westerskov (biology of Foveaux Strait oysters). Edward Percival Marine Laboratory, now with its first lecturer-in-charge in the person of Mr Ian Mannering, again reported being full to capacity with zoology undergraduate courses, although only one MSc and one PhD were working there full time, out of the nearly 40 marine-focussed student studies being undertaken across the zoology, botany, geography and geology departments at Canterbury University.

The first year of operation of the fisheries research vessel “James Cook” had seen it well used on programmes as varied as hydrology and tarakihi tagging, plankton studies and snapper surveys, crayfish larval ecology and catch sampling, which had taken the vessel as far afield as North Cape, Foveaux Strait and the Chatham Islands. Extensive use of the “James Cook” had enabled the Fisheries Research Division’s other ship, the “Ikaterere”, to concentrate on more detailed inshore studies on flounder, snapper and red gurnard. The Division had also added an aquarium, with both fresh and salt water systems, to the facilities at its laboratory complex in Willis Street, in the heart of Wellington, to provide increased research opportunities for the 14 scientists now on the staff. The Fishing Industry Board had increased its research funding to Massey University ‘from \$4000 to \$6000 ... matched by an equal amount by way of Government subsidy through the Department of Scientific and Industrial Research’, for the development of a process for bleaching paua, and now had Mr Neil Boyd working on ‘increased utilisation of fish in processed forms’, as well as Mr Noel Parsons investigating ‘all types of fishing gear and equipment’.

DSIR maintained a strong commitment to marine research across at least two of its divisions, namely

- NZ Oceanographic Institute – with Elliot Dawson (brachipopds, deep sea molluscs, lobsters), Penelope Luckens (bivalves), Don McKnight (echinoderms), Bill Main (crabs), John Bullivant (bryozoa), Janet Bradford (copepods), Dick Singleton (underwater photography), Alex Gilmour (bathymetry), Ron Heath (ocean currents), David Cullen and Keith Lewis (seismic profiling), Jim Eade (foraminifera), Willem van der Linden (offshore profiling) and Geof Glasby (geothermal activity);
- NZ Geological Survey – with Alan Beu (Upper Miocene fauna), Richard Cooper (Lower Paleozoic biostratigraphy), Charles Fleming (tellinid bivalves), Ian Speden (Cretaceous fauna) and Graham Stevens (palaeotemperatures).

The final pages of Newsletter # 13 included a list of 35 additions to the preliminary “Directory of New Zealand Marine Scientists”, published the previous year to commemorate the first decade of the Society, noting that there was ‘*a somewhat arbitrary distinction between scientists and senior technical personnel ... and other persons such as technicians, students, divers, teachers, editors and interested laymen (including) several medical people ... but we are delighted to find such a wide range of interests and activities among our members.*’

1971

In his second Editorial (in Newsletter # 14, published in October 1971) Frank Dromgoole noted the fact that space limitation in recent newsletters had reduced their ‘*research results*’ content ‘*virtually to a list of workers and their respective topics*’

but wondered whether this might in fact be an advantage if, as appeared to be the case, articles printed in the newsletters were regarded as “publications”, which might therefore preclude their results from full publication in other journals. Whether this was the case or not the large number of papers, over 310 in total, cited in Newsletter # 14 in its list of papers published, in press or in preparation for 1970-71, indicated that marine scientists were having no difficulty in publishing their results and were doing so prolifically. This was perhaps not too surprising when five departments at both Auckland and Otago universities, four at Canterbury and Wellington, and two at Massey, as well as Auckland Regional Authority, Auckland Museum, the Dominion Museum, the Marine Department, the Fishing Industry Board, and four divisions of the DSIR, were all reporting activity in marine research at this time. The one general article (by Geoff Glasby) that was published in Newsletter # 14 raised interesting questions concerning the legal aspects of marine mining, and the potential for conflicts in the leasing of rights to such deep water resources as phosphorite, petroleum or manganese nodules, which at the time would have come within the jurisdiction of the 1964 Continental Shelf Act.

1972

Peter Roberts started his tenure as the Society’s Editor with the contentious suggestion, in his editorial to Newsletter # 15 (in October 1972), that he ‘*would like to omit this (bibliography) section*’ because it was ‘*one of the more difficult jobs associated with putting together the newsletter*’. He asked for comments on ‘*the value of the bibliography to individuals and to New Zealand Marine Sciences*’. From the fact that the bibliography has continued to be an integral and substantial part of all subsequent issues, we can assume that any feedback that Peter received on this matter was positive in nature. Peter’s first editorial effort was in fact the most substantial issue of the newsletter, at 86 pages, for several years. This was due to the inclusion of some 40 reports on ‘*research activities*’ from the various marine research organisations, as well as an eclectic mix of ‘*news items*’ covering the Poor Knights Islands, biochemical analysis of seaweeds, antibiotic resistance in bacteria, the first international congress of ecology, and the Pan Pacific Educational and Cultural Experiment by Satellite (or PEACESAT). Also in this issue was a substantial article detailing the vital statistics, equipment and capabilities of the ‘*eight (research) vessels owned or operated by New Zealand organisations*’, with the intention that ‘*this information will be updated in future newsletters*’. The vessels were Alec Black’s “Acheron”, the Portobello Marine Station’s “Munida”, VUW’s “Tirohia”, the “Ikaterē” and the “James Cook” operated by Fisheries Research Division and the “W J Scott” operated by Fisheries Management Division, as well as NZ Oceanographic Institute’s “Tangaroa” and the navy’s “HMNZS Tui”.

Dipping into the ‘*research activities*’ sections of Newsletter # 15 reveals that in 1971-72 the Auckland Regional Authority was engaged in marine studies in both the Waitemata and Manukau Harbours, and the Wildlife Service of the Department of Internal Affairs was ‘*carrying out a survey of all offshore and outlying islands*’. Dr Murray Parsons of DSIR’s Botany Division was involved in analysing the carrageenan content of several seaweeds, whilst several of the staff at the department’s Geological Survey laboratories in both Lower Hutt and Christchurch were working on material from the international Deep Sea Drilling Project. Staff members at NZ Oceanographic Institute were anticipating the benefits of the recent purchase of “RV Tangaroa” - ‘*at present undergoing modification in Whangarei*’ -

and the new laboratories planned for Evans Bay – *‘in the final stages of preparation of working drawings and specifications ... to be completed early in the New Year’*. Benefits, such as *‘the wider range of facilities and back-up services’*, were also expected to flow from the *‘something of a surprise’* decision to amalgamate Agriculture and Fisheries into one new Ministry. Whether this move had any relationship to the number of staff movements occurring at Fisheries Research Division is unknown. These included the return of Adrian Colman from England, John Cranfield from Wales and Robin Allen from Canada, and the departure of Len Tong to the UK, as well as the transfer of Dave Eggleston from Fisheries Management Division and the arrival of Steve Neilsen from the USA. As at NZOI, the Defence Scientific Establishment was looking forward to having full time use of a research ship, the “HMNZS Tui”, to further its interest in *‘underwater acoustics and associated oceanography’*, with the possibility that *‘shipping time may be available to other interested groups during some D.S.E. cruises’*. The Dominion Museum had seven *‘marine’* staff involved in *‘research and building up the collections (and in expeditions around New Zealand and to the tropical Pacific and Southern Oceans’*. Director Dick Dell’s research focus was on Antarctic shelled molluscs, with John Yaldwyn focussing on shrimps and prawns, Jock Moreland on fish systematics and distribution, Alan Baker on ophiuroids and echinoids, as well as cetaceans, Frank Climo on molluscs, Nancy Adams on algae, and Fred Kinsky on the little blue penguin, fluttering shearwaters, and little and fairy terns.

Eventful things were also happening in the academic institutes. At the Leigh Marine Laboratory there was progress towards a marine reserve (following the passing of the Marine Reserves Act in September 1971), acquisition of new land, development of a new seawater system, and the establishment of a new staff position of technician for the laboratory. At the Edward Percival Marine Laboratory the case for additional research and accommodation facilities for long-term research workers has been prepared, with the aim of reducing pressure on the use of the laboratory from the growing size of undergraduate classes, which has *‘made it impossible to provide course work for all at Kaikoura’*. Improvements were also to be made to *‘the wet lab at Cape Bird’*, which is used by Canterbury University’s Antarctic Unit for its summer season studies on Weddell seals, productivity of shallow water algal communities, and offshore sedimentation rates. *‘Pressure on space’*, from existing research staff and students, was also the reason given for precluding the acceptance of *‘new students or long term itinerant workers’* at Portobello Marine Station. Likewise, the Island Bay Marine Laboratory was reporting *‘full occupancy’* but expecting that with several post grads finishing their studies by early 1973 and few new students entering marine biology in 1973, *‘the pressure on research space at Island Bay will be lifted’*.

1973

On 1st April 1973 the name of the Dominion Museum was changed by Act of Parliament to the National Museum. Under its new name the museum would continue to publish its two serial publications containing marine research papers, namely the Records of the Dominion Museum and the Dominion Museum Bulletin, of which the names would change at the end of the current volumes. The National Museum would retain the seven staff who are directly involved in marine science.

NZ Oceanographic Institute's 246 feet long, 1012 tons research vessel, manned by eight officers, a crew of thirteen and up to eight scientists, became operational in April 1973. It was re-named as the "Tangaroa" by the Minister of Science, the Hon Colin Moyle, on 24th July and by the end of the year had completed sixteen cruises. Working drawings for the new Institute buildings were reported to be nearing completion with construction expected to begin in mid 1974.

In his opening remarks to the 1973 annual conference, held in August at the Royal Society Rooms at the National Museum, President Dr Alan Baker suggested that '*communication*' and '*participation*' were the key words for the gathering and that it was '*every member's responsibility to acquaint himself with the contents of our annual publication (which is) the Society's main strength*'. Dr Baker also pointed out that '*the milestone in the history of marine biology and oceanography here*' (in New Zealand), which the visit of "HMS Challenger" in June-July 1874 represented, should be marked in some way by the New Zealand marine science community. The Council was '*keen to hear what ideas members may have*'. John Yaldwyn's conference talk on '*the importance of systematic collections and research*', which described what such collections are, why they are important, where they are, how they are built up, and how they are used, was published in the Newsletter (# 16). He ended by asking how many of this country's 7000 species of marine animals are adequately recorded in New Zealand systematic collections. The Society had earlier in the year (on 20th February) hosted an informal meeting on decapod crustacean systematics and zoogeography at the National Museum. Sixteen members of the Society met with Dr John Garth from the Allan Hancock foundation in Los Angeles to discuss their and mutual interests in decapods. Also published in Newsletter # 16 was the text of a letter from President Alan Baker to the Director of Parks and Reserves. It reiterated the NZMSS submission that there are two main reasons for having marine reserves, namely for scientific study and for the protection of natural life features. The letter suggested the need for an organisation, akin to the National Parks Authority, to adequately control and manage the larger type of reserve required for the '*protection of natural life*' purpose. Information on twelve up-coming conferences, symposia and congresses on marine topics, to be held around the world, was included in the Newsletter. Leigh Marine Research Laboratory reported progress on the construction of a new seawater system, the purchase of 140 acres of adjacent land '*for University purposes*', and the launch of a new trailer-mounted 19 feet long fibreglass runabout, named "Vidalia", for diving and inshore research. The lab had also made an initial application for a marine reserve, covering '*3 miles of coast from HWM to ½ mile out to sea*', and advertised on 1st June for objections to the application, '*in the hope that a decision will be made before the summer holiday season begins*'.

1974

Alan Baker's call for recognition of the significance of the voyage of "HMS Challenger" to New Zealand marine science had been heeded. Both Peter Robert's editorial in Newsletter # 17 (as well as its cover) and the 1974 annual conference had a centenary theme. Dr Des Hurley's opening address to the conference reflected on the '*meanderings of the "Challenger" in South West Pacific waters*' during the early 1870s and on '*the physique and character of those pioneering scientists, a set of thoroughly cultivated men*'. Elliott Dawson however pointed out the relative paucity of information for the New Zealand area that actually came from "Challenger", compared to the much more significant results from the "Siboga", "Valdivia" and

“Investigator” expeditions. This annual conference, held at the National Museum, *‘incorporated several innovations’* such as extension to a four-day meeting and inclusion of two seminar sessions, one of them on *‘popularising science’*, with contributions from TV presenter Ron Walton, science editor Ray Knox, and scientific author Graeme Stevens. The other seminar on *‘environmental impact’* engendered a *‘very lively discussion on the inadequacies of the water classification scheme’* and resulted in a motion that *‘the Society Council consider an approach to the Water Resources Council to express concern and offer the Society’s resources to advise the WRC in any reappraisal of classification criteria’*.

The Water Resources Council (WRC) was at this time attempting to classify New Zealand waters by declaring *‘minimum standards of quality at which natural water shall be maintained’*. In response to the motion from the conference the Society requested clarification of the Council’s operations. The response from WRC Chairman Bruce Spooner, published in Newsletter # 17, confirmed the intention that *‘all waters should be available for the public (and) future usage of water should be protected from water quality impairment’*. He did however raise the question of *‘what standard of quality should our waters be maintained (at) to achieve full usage by the public and protection of natural aquatic life’*.

A summer meeting was held in February 1974 at Portobello. Attended by some 30 members, the meeting was entertained by fourteen presentations ranging from film of crab behaviour in Fiji, through observations on the size and efficiency relationship of overseas marine laboratories, to the trials and tribulations (such as *‘conservation of the shore from marauding school children’*) of teaching marine biology with limited school resources. Two other meetings involving Society members were reported in Newsletter # 17 and both were phycological. At Edward Percival Marine Laboratory in November 1973 there was a 3-day meeting *‘to see what to collect in the Kaikoura area and to discuss current phycological problems’*. The other meeting at the Leigh Marine laboratory in May 1974 was *‘for people interested in collecting and discussing marine algae’*.

Fisheries Management Division was able to report the *‘implementation of Government approval to expand fisheries development’* through the establishment of numerous new scientist and technician positions, including a new Chief Fisheries Management Officer, in the person of Bert Brun. *Catch ‘74* was a new monthly magazine from the Ministry covering topics of interest to New Zealand fishermen, including the activities of the division’s vessel “W J Scott” and the work of its staff on commercial fish and shellfish, from teichi nets at Whangarei to oysters at Stewart Island. Fisheries Research Division reported in Newsletter # 17 that its research vessels “Ikaterere” and “James Cook” were being kept busy on a wide range of projects, and its new *‘20 feet steel diving tender’* “Rukuwai”, was being fully used on rock lobster studies. Site problems concerning the division’s planned new laboratories at Evans Bay, and the requirement for an Environmental Impact Report meant that no development could take place until approvals were given by the Minister for the Environment. Meanwhile work has started on the conversion of a Defence Department building at Mahanga Bay in Wellington Harbour into a shellfish hatchery.

NZ Oceanographic Institute commemorated the Challenger Centenary by repeating the stations sampled by “HMS Challenger” in 1874, during a research cruise led by

Elliot Dawson on “RV Tangaroa” in July 1974. Drs Andrews and van der Lingen of NZ Geological Survey, whose work over the past two years had concentrated on the Deep Sea Drilling Project, attended the Challenger Centenary-Deep Sea Drilling Symposium in Sydney in August. An appendix to Newsletter # 17 listed 22 articles, ‘concerned with the law of the sea’, that had been published during 1970-74 by Professor F M Auburn, of the Faculty of Law at the University of Auckland.

1975

Instead of an Editorial in the 1975 Newsletter (# 18) Peter Roberts provided a report of the annual conference held in Nelson, at which, for the first time in its history, the Society joined with NZ Ecological Society for a combined meeting. It was, the account suggested, ‘*a venture so successful in terms of exchange of information between societies on both personal and formal scientific levels that I cannot see other than similar patterns of venue and topic sharing in the future*’. Larry Paul’s conference address was perhaps the first by a President of NZMSS to draw attention to ‘*the increasing interest in climate change*’ and to note that at least in the Southern Hemisphere ‘*there does seem to be agreement that temperatures are increasing*’. Larry expressed concern that there was insufficient New Zealand activity on measuring and understanding the fluctuations in marine climates, and on relating the ecology of organisms and communities to these fluctuations. He concluded his address with the almost perennial question of “How can the Marine Sciences Society best stimulate a wider exchange of ideas?”

Also reported in the 1975 Newsletter were the retirement of Professor Arnold Lillie after 24 years in the Chair of Geology at the University of Auckland, and the death of Professor R Morrison Cassie of the Zoology Department. Together with Associate Professors Pat Bergquist and Michael Miller and Dr Brian Foster, Professor Cassie had been instrumental in conducting Phase I of the Maui Development Environmental Study, under the chairmanship of Professor Alick Kibblewhite of the university’s Physics Department. Dr John Jillett was appointed as Director of the Portobello Marine Laboratory in November 1974, succeeding Dr Betty Batham who ‘*disappeared without trace in July 1974 while she was based on leave at the Victoria University of Wellington*’. The Leigh Laboratory report noted the gazetting of ‘*the first marine reserve in New Zealand ... on November 6th 1975 – 10 years and 6 months after the first approaches to the (then) Marine Department on the matter*’. The report regretted that the reserve was not yet operational because the management committee had not been appointed. The Defence Scientific Establishment of the Ministry of Works and Development conducted TASMANTWO, a major experimental study of ‘*the interaction of acoustics and oceanography in a particularly complex area – that to the west of Fiordland*’. The study involved “HMNZS Tui” being connected to a series of hydrophones and RNZAF Orion airplanes dropping sound signals. NZ Oceanographic Institute celebrated its 21st birthday with two days of films, activities and speeches tracing ‘*the development of the Institute from its meagre beginnings to its present status*’, with a history ‘*including photographs and some notable cruise diaries ... soon to be published in a commemorative handbook*’. 1975 was also notable for being the last year in which the Society was able to retain its subscription rates at the unbelievably low level of \$2.00 for full members and only \$1.00 for students, overseas members and libraries.

1976

President Larry Paul, drawing on his long involvement with NZMSS, addressed the 1976 AGM of the Society, held at Victoria University, with a review that he had earlier presented to the Member Bodies Committee of the NZ Royal Society. He had been asked to *'review the present state of the (marine science) discipline, highlight some growing points and possibly important gaps where at the moment no research is being carried out, and also where joint research with another discipline is considered imperative'*. Larry considered this to be *'quite a challenge considering the wide coverage of this Society'*. His address noted the preponderance of marine biology in the Society (exemplified by the research focus of twelve of the thirteen Past Presidents), drew attention to its communication and spokespersonship roles, and identified three areas of research (namely data relevant to the 200 mile economic zone, environmental impact reporting, and the scarcity of marine systematists) which are both *'growing points'* and *'serious gaps in research capability'*. The *'Research Notes'*, as usual made up the bulk of 1976 Newsletter # 19, with reports detailing staff and student activities in up to four departments at each of the six universities, as well as the marine work being undertaken at Ministry of Agriculture and Fisheries, Fishing Industry Board, Auckland Regional Authority, Ministry of Works and Development, Cawthron Institute, Auckland Institute and Museum, NZ Meteorological Service, Department of Internal Affairs, and five divisions of DSIR.

Extensive survey work has been undertaken in the area of the Cape Rodney to Okakari Marine Reserve but at the end of 1976 it is still not operational, with only *'some moves to form a management committee made by the Minister of Agriculture and Fisheries'*. Jack van Berkel took over from Ian Mannering as technician-in-charge at the Edward Percival Marine Laboratory. With the arrival of Professor John Wells at Victoria University of Wellington, marine aspects of teaching are being *'restructured ... to integrate the marine laboratory into undergraduate courses thereby stimulating maximum utilisation of its resources'*.

1977

The opening of the Cape Rodney to Okakari Marine Reserve (to give it its full name) at Leigh finally took place on 25th May 1977. The gathering was addressed by the Minister of Fisheries, the Honourable Jim Bolger, as well as by Mr George McMillan, as Commissioner of Crown Lands, and by Dr Phillip Tortell from the Commission for the Environment. Lew Ritchie, chairman of the reserve's management committee, and Lally Haddon, committee member and Rodney County councillor, provided the local viewpoint. Public interest in the reserve was reported to be *'high and the coming summer season should provide solid clues as to the use of this reserve and to people's acceptance of the marine reserve concept'*. Jim Brodie retired in March 1977 after 40 years in the Public service, the last 19 as Director of the NZ Oceanographic Institute. Jim had taken the Institute, and its predecessor the Oceanographic Observatory, from a staff of three, housed in rented buildings and with no sea-going facilities, to a staff of 46, its own research vessel and its own soon-to-be-completed custom-designed new building. During this period the organisation had an accumulated scientific output of more than 500 papers, 200 charts and 100 bulletins.

Dr Bob Kirk prefaced his Presidential Address to the 1977 annual conference, which addressed the topic of wave data for the New Zealand coast (and was published in Newsletter # 20), with the comment that it is *'both an interesting and a challenging time to be a New Zealand marine scientist ... with the growth in knowledge of our*

marine environment ... more rapid during the last decade than at any previous time'. Bob's presentation concluded that the cost of obtaining wave data, to provide real advances in our knowledge of local processes to assist in design and management procedures for coastlines, was small as a proportion of the investments being made around the coast, with *'all too many places around the coast where we can see the cost of not making the effort'*. Also in the 1977 Newsletter was an item reporting that the Society's Council had been pondering the question of how NZMSS should *'make itself felt'* and had come up with two ways to tackle the problem. The suggestions were either to establish a *'special policy committee'* that would develop consensus policy statements on problems or viewpoints expressed by members, or alternatively Council could identify *'specific important areas'* on which to request the views of the membership and then establish policies.

On 1st October 1977 the Fisheries Management Division's Fisheries Control Centre became operational for recording the positions of all foreign fishing vessels within the 200 mile Economic Zone, with the purpose of collating information on vessels, reviewing fishing operations and monitoring surveillance activities.

1978

At the 1978 annual conference of the Society, held jointly with the NZ Limnological Society at the University of Otago, President Charles Boyden noted that *'the most significant event facing marine scientists in 1978 is the establishment of the 200 mile exclusive economic resource zone'*. He declared that *'this is no time for complacency'*. The President's address, published in Newsletter # 21, covered four topics – two *'perennial problems'* (coastal management and overfishing of inshore stocks) and two *'future challenges'* (research into deepwater fisheries and demand for marine scientists). At the conference, which was held at the unusual time of May, two resolutions were passed at the AGM, one on the need for protection of the trevally stocks at the Poor Knights Islands, and the other on the Society's support for the principle of broader management of Antarctic marine resources than is available under the existing Antarctic Treaty. The Newsletter also contained a report on an Inter University Conference of Senior Staff of Marine Laboratories held at the University of Canterbury on 25th August 1977. This *'first official get together of marine laboratory staff ever held'* had as its prime objectives a review of the state of development of the four laboratories, and discussion of ways and means of future collaboration of staff and of graduate research. The conference was chaired by Dr Bob Wear (Victoria) and attended by Drs Bill Ballantine (Auckland), Charles Boyden, John Jillett and Barbara Williams (Otago), and by Professor George Knox and Dr Wally Clark (Canterbury). It decided on six measures to implement for *'immediate cooperation'*. These were the production of a new edition of a descriptive pamphlet on the four laboratories; the recommendation that each laboratory produce its own more detailed pamphlet; the exchange of 50 colour slides between each laboratory for teaching purposes; the exchange of preliminary species lists; improvement in the present monthly exchange of climate data; and a recommendation to exchange total lists of local publications and data sources.

The building of the new research wing at the Leigh Marine Laboratory, comprising a biological lab with seawater supply, chemical and geophysical labs, a tank room, a photographic darkroom, a dive store and changing room, and library and ancillary rooms, was expected to be completed by March 1979. Construction was also

underway for the new NZ Oceanographic Institute building at Greta Point, Evans Bay on Wellington Harbour, with the three storey main block expected to be completed by November 1979. The four storey laboratory block being built on the same site for the Fisheries Research Division is due for completion towards the end of 1980. The Ministry of Works and Development (MWD) reported being involved in projects of a marine nature covering the Manukau Harbour and the abandoned Auckland Thermal No 1 Power Station (coordinated by Dr Terry Hume), estuarine modelling studies at Hamilton (by Drs Alastair Barnett and Chris Rutherford), and the Pauahatanui Environmental Programme. MWD involvement also encompassed Jeremy Gibbs Victoria University PhD study on North Island beach and river sediments, and Sally Davis' work in Christchurch on a bibliography of '*published and unpublished data on estuarine and coastal waters*'. MWD's Central Laboratories have a wave-rider buoy operating at Hicks Bay, with another to be installed in Lyall Bay for Dr R J Keller's work on '*establishing the local wave climate as part of the feasibility studies for port and airport developments*'.

1979

Dr Don Robertson dedicated his 1979 Presidential Address to the passing of three distinguished Society members and eminent research scientists, who had all died during the year. They were Sir Robert Falla, deemed to have been the first President of NZMSS, Dr Charlie Boyden who was the immediate Past President, and Dr Dave Eggleston, Assistant Director of Fisheries Research Division at the time of his death. During his address Don linked the declaration of the 200 mile Exclusive Economic Zone '*only 16 months ago*', with the need for responsible management and concern over government cuts in university budgets '*reducing the quality and quantity of trained people required to meet (New Zealand's) internationally stated expectation ... to manage her marine resources in such a way as to promote optimum utilisation of stocks*'. Correspondence published in the 1979 Newsletter (# 22) showed that in response to resolutions passed at the previous AGM, the Society had written to the Minister of Fisheries asking for a ban on commercial pelagic fishing around the Poor Knights Islands, to which the Minister's reply stated his intention to have an Environmental Impact Report prepared on the application for a Poor Knights Marine Reserve, but that a regulation to ban fishing was not considered necessary at the time. A letter to the Minister of Foreign Affairs, supporting the draft Convention on Conservation of Antarctic Marine Living Resources and '*offering any advisory assistance that might be possible*', drew the response from the Minister that the fate of the Convention had not yet been definitively determined, but he thanked the Society for its offer of support. Also in the Newsletter was a report by Dr Brian Foster on '*the extravaganza*' that was the 49th ANZAAS Congress held at the University of Auckland in January 1979. It had just over 4000 persons registered for '*13 special lectures, 106 general symposia and 1,615 sectional papers, (as well as) a flurry of social events, displays and tours*'. Brian concluded that '*small but nevertheless well-structured conferences like our own Society meetings could succeed just as well or better if they could be made multi-disciplinary in themes and attendance*'. Whether the Summer Meeting of NZMSS and AMSA, held at Tutukaka just before the Congress, and attended by 106 people, 49 of whom were from Australia, met his criteria for success is not clearly stated in a second conference report that Brian Foster provided for the Newsletter.

The Zoology Department at Auckland University in 1979 was strongly marine focussed, with at least nine staff members (Professor John Morton and Drs Patricia Bergquist, Michael Miller, Howard Choat, Brian Foster, Rufus Wells, Michael Barker, Bob Crease and newly appointed John Montgomery), together with Drs Bill Ballantine, Tony Ayling and F J Taylor from the Leigh Laboratory, involved in supervising some seven PhD and 23 MSc student projects. New buildings opened at Leigh in April provided '*a large increase in working space (about x 3) which has already made a tremendous difference to work at the Laboratory*', and two small cottages for visiting workers '*have proved popular and useful, providing convenient & comfortable accommodation*'. Expansion of staff numbers and activities at NZ Fishing Industry Board during 1979 necessitated a re-grouping into divisions responsible for aquaculture, fishing methods, gear technology, and processing under overall Technology Manager Jock Lockley. The Board's major effort on aquaculture development culminated in the '*long awaited*' publication of Jim Jenkins handbook on "Mussel Cultivation in the Marlborough Sounds (New Zealand)".

As well as its annual 1979 Newsletter, the Society also published as a separate 40-page document the "New Zealand Marine Sciences Directory 1979". This listed '*those people directly involved in New Zealand marine scientific activities, whether resident in New Zealand or elsewhere (including) not only publishing scientists, but also persons involved in development and management, technicians who have extensive experience of scientific research, PhD and MSc students, and experienced divers who have some connection with scientific research*'. The Directory comprised an alphabetical list of 343 '*workers*' each with their affiliation and/or employer and their specialities. This was followed by a subject index with '*workers*', categorised according to their interests, listed under seven major headings (biology, zoology, geology, physics, mathematics, gear technology and marine management) and numerous sub-headings, from aquaculture, behaviour and benthos to shoreline ecology and systematics (under '*biology*'), phyla from protozoans to mammals (under '*zoology*'), geochemistry to stratigraphy (under '*geology*'), and coastal engineering to water pollution (under '*marine management*'). A list of addresses for 41 universities, marine laboratories, and government agencies and institutions was also provided in the Directory.

The 1980s Decade, 1980-1989 (Newsletters # 23-32)

1980

Consistent with its low key attitude to its own importance in the history of marine science in New Zealand (or perhaps from a mere lack of awareness), the Society made no mention of its 20th Anniversary in either its annual conference held at Victoria University in August 1980 or in that year's Newsletter (# 23). There was however an element of reflection in Professor George Knox's keynote address to the conference, which matched the conference theme, namely "Organisation and funding of New Zealand marine science". The Society's concern over the funding of marine science also formed part of President Professor John Wells' opening address to the conference, together with equal concern over the apparent lack of communication between marine scientists '*both between those in different disciplines and between those with similar research interests but who happen to work in different institutions*'. John Wells put forward the view that '*the present multiplicity of more or less independent institutions is not conducive of widespread cooperation*', and that funds needed to be made available for '*project-oriented research which would draw upon existing facilities, scientists and technicians from a variety of institutions plus allow the employment of temporary support staff*'. He even suggested that a '*review body*' be set up within the National Research Advisory Council (NRAC), the existing science funding agency, that the body '*should be staffed largely by scientists in research and have the power to recommend the funding of projects and the secondment of staff from parent institutions*'. George Knox's comprehensive presentation identified the rationale '*for an expanded effort in the marine sciences*', by posing the question "Do we have a National Plan for New Zealand marine science?" and describing current resources and their deployment, as well as gaps and deficiencies in marine sciences research. With the aid of some '*crystal ball gazing*', George suggested what developments he would like to see happen in eight fields of marine research; these were fisheries research, integrated multidisciplinary ecosystem studies, long-term studies, modelling, coastal studies, marine reserves, Antarctic research, and international cooperative research programmes. After touching briefly on the manpower and funding requirements for his vision of the future, George concluded by urging the Society to '*take up the idea of promoting the development of a National Plan for the New Zealand marine sciences*'. The keynote address was complemented by presentations on the role and organisation of Fisheries Research Division by Duncan Waugh, NZ Oceanographic Institute by Des Hurley, Water and Soil Division by M E Harris, and the universities by John Morton.

Under the heading of "Point of View" (in Newsletter # 23), John Jillett of Otago University, discussed the role of the universities in marine research. He opened with the comment that '*while research and development activities in government agencies are subject to review and assessment by bodies such as NRAC, those in universities are not*'. John concluded there was a need for manpower planning and financial incentives to influence the direction of research effort in universities, and a need for '*division of responsibility between government agencies and universities to reduce duplication of effort, resources and equipment*'. In November 1979 a fire at the Island Bay Marine Laboratory '*destroyed the resident technicians flat, 2 research rooms and substantially damaged the entire frontage the laboratory at ground floor level*'. Fisheries Research Division reported that a contract had been let with Whangarei Engineering and Construction Ltd to build a new 28 metre fisheries research vessel

for delivery in April 1981, the vessel to be *'capable of performing all types of sampling in coastal waters'*. NZ Fishing Industry Board, by contrast, was evaluating the *'viability of sails on an existing conventional trawler with the objective of quantifying the fuel savings resulting from the application of sail power during the trawling operation'*. Cawthron Institute had at least ten staff (including Paul Gillespie, Lincoln Mackenzie, Ken Juniper, W D Grant, Henry Kaspar, Doug Mountford, R Asher, M D Cooke, L Belser and E Mays) involved in marine projects. These mainly covered microbial processes in intertidal sediments, particularly in the Delaware Inlet, Nelson Haven and the Waimea Inlet. Bioresearches Ltd, based in Auckland, reported marine projects on NZ Electricity's combined cycle sites (being undertaken by Graham Don), the Upper Waitemata Harbour (by Mark Poynton and Tony Wilson), fisheries and ichthyoplankton (by Chris Hatton) and Tauranga Harbour and Tiritiri Channel (by Mike Larcombe), as well as in other parts of the country.

1981

The 1981 annual conference was unusual, by virtue of its venue, in being held at the Bay of Plenty Harbour Board offices in Mount Maunganui, and also by having a topical address on "Co-ordination of Scientific Activity at Sea", presented by Commander W Jacques, Hydrographer of the Royal New Zealand Navy, during the evening of the first day just before the Society's AGM. After recounting the Hydrographic Branch's history, since established in 1949, in publishing charts and conducting hydrographic surveys, Commander Jacques declared his concern over *'drawers and cabinets full of bathymetric data gathering dust'* and the fact that *'practically every voyage (of his naval vessels) has the potential for some useful data gathering in support of someone's scientific study'*. Only in the past year had his staff made *'tentative approaches into the marine scientific field'* to promulgate the naval ships survey cruise programmes, and *'one of the first amazing things he discovered was the Marine Sciences Society'*. The Commander finished with the plea that *'all – scientists, sailors and administrators – must explore every avenue to communicate and share our resources, opportunities and expertise'*. The published abstracts of some of the papers presented at the conference covered the usual wide range of topics from seabed surveying, snapper rearing and mussel farming to tsunamis, sediments and estuarine planning.

A diverse set of *'meetings, visits, reports, announcements'* published in the 1981 Newsletter (# 24) looked forward to the 52nd ANZAAS Congress, the 2nd International Symposium on Marine Biogeography and Evolution in the Pacific, the Joint Oceanographic Assembly, the 4th Congress of European Ichthyologists, all to be held during 1982, and the 15th Pacific Science Congress scheduled for Dunedin in February 1983. There were also reports on the 5th Phycological Foregathering and Foray, attended by 24 people and held at the University of Canterbury (and at Moeraki) in February, and a Seminar on Marine Mammal Strandings attended by 40 delegates at the Shaw Savill Lodge and the National Museum in May. A set of *'instructions'* used by Dr Bill Ballantine for *'ecological data analysis and the interpretation required for environmental impact reports'*, specifically for "The Northland Forestry Port: Marsden Point EIR" was published on behalf of the Commission for the Environment, for comment on whether *'the approach is applicable wherever coastal ecosystems are threatened by a proposal'*. The publication was announced of the "New Zealand Atlas of Coastal Resources", in its highly unusual rolled-up format, with a soft vinyl cover and presented in a cardboard

cylinder *'for ease of handling'*, and retailing at \$29.50. Edited by Dr Philip Tortell of the Commission for the Environment, assisted by a multi-agency working party, the scope of the Atlas was best indicated by a list of the 24 contributors and the complete range of marine aspects encompassed. Also announced were New Zealand's participation in the international "Mussel Watch" pollution monitoring programme, following attendance by Dr P Dinamani of Fisheries Research Division, at the WESTPAC meeting in Manilla in January, as well as what was *'considered a significant development in industry participation in fisheries research'* with the NZ Abalone Exporters and Aquaculture Association providing support for a research project on breeding and rearing of paua, by funding a research assistant to work with Dr Len Tong for a year at the Mahanga Bay Shellfish Hatchery..

Since the occupation of the new buildings at Leigh Marine Laboratory in mid 1979, their use has increased rapidly with more field courses and workshops, with some 10 having taken place in 1981. The lab was pleased to report *'an equipment and furnishing grant relating to the new buildings'*, which was *'a milestone in two ways'*, because it represented a "setting-up" grant (which the Laboratory had not previously received in its 16-year history), and it was the first such grant (by the University Grants Committee) to a New Zealand university marine laboratory. All the universities reported extensive involvement in marine science work with Auckland having its botany, geography, geology, physics, and zoology departments, as well as the Leigh Laboratory, all involved. It was a similar story at Canterbury (botany, geography, geology, zoology and Edward Percival Field Station involved), and at Otago where biochemistry, chemistry, clinical biochemistry, geology, microbiology, physiology, zoology and the Portobello Marine Laboratory all had some marine output.

The opening of the Brodie Building, the NZ Oceanographic Institute's new facility at Greta Point, Evans Bay, by the Honourable Dr Ian Shearer, Minister of Science and Technology, took place on 19th August 1981. The building was named in tribute to the Institute's first Director, Mr Jim Brodie, and the opening was followed by two open days during, which were deemed *'a great success with hundreds of visitors enjoying the many displays prepared by all sections of the Institute's staff'*. Thirty one NZOI staff were reported to be working on marine topics across marine biology, geology and oceanography in 1981. Three staff at the NZ Meteorological Service were also working on marine topics, with Brian Taylor studying sea surface temperature, Ian Brown working on a sea and swell hindcast project, and Andrew Laing analysing sea swell and winds over the sea. The Commission for the Environment had *'a significant year'* in 1981, with two major new areas of activity. One was an examination of the first project to be dealt with under the National Development Act. The other was the completion by a team from the OECD of a formal review of New Zealand's environmental policies. The Marine Sciences Society was among those invited to make a submission to the Environmental Council, which had been given the task of obtaining public comment on the OECD review. Commission staff members Ken Murray, Roger Cornforth, Bill Carlin and Philip Tortell were all involved in auditing and making submissions on proposals.

Fisheries Management Division (FMD) was undergoing a major review of its organisational structure and the roles of individuals, perhaps with the aim of rationalising the breadth of its facilities and staff across the country. In 1981 FMD had

offices and staff in Whangarei, Auckland, Tauranga, Gisborne, Wellington, Nelson, Christchurch, Dunedin and Invercargill. Fisheries Research Division was also involved in some re-organisation, including the separating out of Coastal and Deepwater finfish sections, under Larry Paul and Don Robertson respectively, and the setting up of a Fisheries Statistics Unit within the Populations section. The first edition of the “Guide Book to New Zealand Commercial Fish Species”, intended as a guide for exporters and marketers of New Zealand fish, was published in 1981 by the NZ Fishing Industry Board. “Fish of the Marine Reserve” by Sue Thompson was published in 1981, by the University of Auckland, as a guide to the identification and biology of common coastal fish of north-eastern New Zealand.

1982

The 1982 annual conference was unusual in several ways. Held over four days rather than the usual three, it took place for the first time in the conference facility of the newly completed Fisheries Research Centre at Greta Point in Wellington. It was held in conjunction, though not jointly, with a meeting of the Systematics Association of New Zealand. It also included one whole afternoon session organised by the NZ Committee for Water Pollution Research, and it was the first year in which a prize was awarded for ‘*the best student paper*’, the inaugural prize going to Wim Battaerd of the Zoology Department at Auckland University for a presentation on “Zooplankton of the Cape Farewell upwelling”. An initiative taken at the 1982 AGM was the election of a set of regional representatives to provide the Council with regional perspectives and input on specific regional issues. The representatives elected in 1982 were Drs Bob Crease (Leigh), Terry Healy (Hamilton), Paul Gillespie (Nelson), Malcolm Jones (Christchurch) and Mike Barker (Portobello). The abstracts for more than half of the 47 papers presented at the conference were published in the 1982 Newsletter (# 25).

The style and layout of the annual Newsletter were firmly established by the time that Dennis Gordon and Rosemarie Thompson took over editorial responsibility in 1982 (after Rosemarie had jointly edited the previous issue with Rob Mattlin) and continued in the task for three issues. The light card cover, with a line drawn illustration, varied in colour with each issue, but the Newsletter’s contents were uncompromisingly standard. Following the ‘*Contents*’ was the “Society” page (with subscription details and the contact information of the Council officers and members), and then came the conference report (usually just a list of speakers and their topics, accompanied by some of the abstracts). The next “Meetings etc” section was of variable length depending on how many meetings, visits or announcements were included, and whether any reports or general articles had been provided to the editors. The bulk of the Newsletter, and probably the most sought after section, comprised the reports of research and staff activities at the five universities (Auckland, Waikato, Victoria, Canterbury and Otago), and the numerous other ministries, departments, institutions, authorities, commissions, boards and companies with some involvement in New Zealand marine science. Several pages of “Bibliography” of recent publications across the whole spectrum of marine science always completed the Newsletter’s content.

A “Warm Core Rings Workshop” co-sponsored by the US/Australia and US/NZ Co-operative Science Programs and the CSIRO, was held at the NZ Oceanographic Institute during January and attended by seven delegates from the USA, seven from

New Zealand and twenty from Australia. Thirty-four papers resulting from work on warm core rings were given, and working group discussions centred on *'particular disciplinary and multi-disciplinary problems associated with ring structure and dynamics'*, with a final session summarising the current state of knowledge about rings and indicating directions for future research. An article published in the Newsletter drew attention to the US/NZ Agreement for Scientific and Technical Co-operation (under which the warm core rings workshop was sponsored). It described the guidelines for New Zealand scientists wanting to access the funding (NZ\$25,000 per annum for five years from 1979) to establish *'bilateral and reciprocal co-operation ... based on mutuality and reciprocity in both participation and funding'* for a research project which would *'have scientific merit and be of clear cut benefit to both sides'*.

During 1982 the Leigh Laboratory was having a new 10-metre work boat, christened "RV Proteus", built and Dr David Schiel left the lab to spend a year on a McCarthy Fellowship at Moss Landing Marine Laboratories in California; Dr Cam Nelson of Waikato Earth Sciences Department participated in the "Glomar Challenger" expedition leg from Papua New Guinea to New Zealand; Professor Jack Garrick became Chairman of Zoology at Victoria University; Jack van Berkel reported a busy year at the Edward Percival Field Station, with *'over 2,300 overnights recorded for accommodation for research workers and university field trips'*; Dr Vivienne Cassie visited institutions in Norway, Sweden and the USA seeking information on slime phenomena associated with dinoflagellates, to aid in this country's investigation of "Tasman Bay slime" incidents; the Taranaki Catchment Commission and Regional Water Board had a total of 17 staff in its water quality section, with six marine ecologists, five toxicologists, two chemists, one bacteriologist and one oceanographer, working under Senior Biologist, Fergus Power and Water Quality Manager, Dr Mike Patrick.

On 1 December 1982 a new DSIR division, the Division of Marine and Freshwater Science, was established by merging the NZ Oceanographic Institute and the Freshwater Section of Ecology Division. The Institute retained its name and the Freshwater Section became known as the Taupo Research Laboratory. With a total staff of 64 in the two groups with complementary roles in *'studying the nutrients and productive status of bodies of water'*, it was expected that the merger would *'lead to a deeper focus on estuaries'*.

In what was at the time a bumper edition comprising a total of 130 pages, the **1983** Newsletter (# 26) included the abstracts from all 55 papers presented at the NZMSS conference held in the Zoology Department of the University of Auckland in August, which by this stage in the Society's history had become the preferred time of year for holding the annual conference and AGM. The conference organisers had managed to arrange the usual wide range of paper topics into ten loosely titled sessions. The ten sessions, namely monitoring procedures, oceanography and hydrology, phytoplankton biology, invertebrate biology, zooplankton biology, South Island fisheries, benthic ecology, shellfisheries, fisheries related topics, and taxonomic and biogeographic topics, reflected the dominance of "marine biology" as the major interest of the Society, or at least of those Society members who attend the annual conference. The opening presentation, given by G Campbell from the Planning Division of Auckland Regional Authority, was a discussion paper entitled "The New Zealand Biological

Resources Centre: can it serve the needs of marine sciences?" The paper outlined the work of the Centre, established in 1981, and discussed its potential *'to assist in the integration of marine biological information into the processes of planning and public decision-making'*. The best student paper prize again went to Auckland University Zoology Department, with Mike Kingsford's paper on "Visual censusing of fish larvae" edging out the contribution on "More zooplankton ..." from the previous year's winner Wim Battaerd.

A larger than usual number of items in the *'meetings, notices, announcements'* section of the Newsletter was in part responsible for the size of issue # 26. Dr Murray Parsons reported the success of the "6th Phycological Field Meeting" held at Stewart Island in January. This was the first of this series of meetings to be held with the Australasian Society for Phycology and Aquatic Botany and six Australians, as well as two Canadians, were included in the 30 people who attended. Conference sessions were arranged *'during high-tidal periods and in the evenings'* to accommodate walks and boat trips and one session was *'postponed so that the delegates could enjoy the sunshine of our one perfect day'*. A publication date of December 1983 and price of \$12.95 was announced by Victoria University Press for Alan Baker's *'pocket-sized, ruggedly bound guide'* to "Whales and Dolphins of New Zealand and Australia". Two other recent publications were "Animals of the Estuary Shore. Illustrated Guide and Ecology" by Malcolm Jones, published by the University of Canterbury, with 162 pages and 140 line drawings, at \$7.50 (reviewed by Ken Grange and Geof Read later in the Newsletter), and "Collins Guide to the New Zealand Seashore" by Dave Gunson, with *'over 600 illustrated species and subjects, 54 colour pages, price \$24.95'*. The latest of the many requests for materials or information that had appeared in the pages of Newsletters over the years, were for *'samples of ascidians, especially colonial ascidians'*, from Dr M H G Munro of the Chemistry Department at the University of Canterbury for his screening programme for compounds with antiviral activity, and for information on *'New Zealanders representing various international oceanological organisations'*, from the Royal Society for updating its National Committee for Oceanic Research database. Also published in this section of the Newsletter were two notices. One was on the aims and objectives of the "Wildlife Research Liaison Group", which had been set up to *'promote wildlife research in New Zealand'* by facilitating and encouraging communication and regularly reviewing current wildlife programmes, The second notice advised members of the availability of a biological illustrator. Ms Vivian Ward, based at Leigh, had provided examples of her illustrations of *'underwater habitats, molluscs, seaweeds, sponges and fish'*, which were reproduced within the pages and on the cover of the Newsletter, to announce her availability *'to any organisations, society or individuals who desire realistic drawings of marine life and/or habitats'*. This was the first time any illustration was included within the text of the NZMSS Newsletter.

1983

Within the vast amount of information contained in the 43 pages of *'Research Notes'* in the 1983 Newsletter were snippets such as the observation from Murray Gregory (Geology Department, University of Auckland) that the surface of the Southern Ocean was *'clean'* since just *'a few small bits of plastic were picked up in the Convergence Zone, but no pelagic tar balls were encountered'*, after he successfully trailed a neuston net between New Zealand and the Ross Sea. 1983 being both the centenary year for Auckland University and the 21st anniversary of the first building at the Leigh

Laboratory attracted over 300 visitors to the Laboratory's Open Day. Great interest was also generated at the Island Bay Marine Laboratory by its population of '*several thousand bivalves, large numbers of particularly pugnacious paddle crabs, and a school of six snapper*'. The Edward Percival Field Station was particularly active, as a consequence of the Kaikoura Benthic Survey, involving "RV Tangaroa" sampling off the Kaikoura Peninsula and collections for a total of six research projects, by a group of Canterbury University scientists led by Dr Colin McLay. Second year MSc (Resource Management) students at Lincoln College of Canterbury University are required to undertake '*a written report on a project*'. In 1983 four of the projects had a marine focus, covering economic, policy and management issues affecting salmon ranching, mussel farming, the Chatham Rise phosphate resource, and joint ventures in fisheries. Euan Fordyce (Geology Department, University of Otago) was excavating a '*7-metre-long plesiosaur from Cretaceous rocks in North Otago*'.

In 1983 Fisheries Management Division reorganised its Head Office Science Group by establishing two Fisheries Management Plan Officers and one phycologist. Dr Bob Cooper, who had recently returned from the Graduate Program at the University of Washington's Institute of Marine Studies, took on one of the Plan Officer positions, and Dr Wendy Nelson was appointed as phycologist. A new regional structure was also set up with four Regional Fisheries Management Officers and five new Regional Fisheries Biologist positions. The New Zealand National Physics Conference, held at the University of Auckland during 10th -13th May 1983, included five papers from staff at the Ministry of Defence, encompassing the work of the Defence Scientific Establishment on '*factors in the New Zealand marine environment which affect the performance of modern defence systems and potential future systems*'.

With the establishment of the new Division of Marine and Freshwater Science in December 1982, 1983 became the '*Year of the Amalgamation*' for the Oceanographic Institute and the Freshwater Section of Ecology Division. The new division was to be headed by the Director of the Institute, with Dr Ron Heath from NZOI and Dr Ed White from the Taupo Laboratory as Deputy Directors – '*a triumvirate together forming a policy directorate for the new division*'. Retention of the long-established name of the New Zealand Oceanographic Institute was done '*for practical as well as historic and nostalgic reasons*' since '*NZOI is an internationally accepted acronym and has an international identity in the world of oceanography which we did not wish to lose*'. The Ministry of Transport's Marine Division drew attention to its 1982 publication by P McCombs and C Hansen on "Planning for Coastal Waters", which was addition to the 8 booklets and pamphlets of marine interest listed in the 1982 Newsletter.

The final section of Newsletter # 26, which was a major factor in the increased size of this issue, comprised a review of New Zealand marine collections. Following a motion at the 1982 AGM for the Society to investigate '*the desirability and feasibility of its establishing national register of marine samples*', the Council (or committee, as it was often called at the time) had determined a general feeling that though desirable such a register was '*probably not feasible given present resource constraints*'. It was however felt that it would be useful and possible to produce a list of collections. The 25-page published list, covering aspects such as the status, function, loans policy and scope of the collection, mostly encompassed '*biological collections*' from Botany Division, Geological Survey, Oceanographic Institute, Fisheries Research Division,

Auckland Institute and Museum, Canterbury Museum, National Museum, Otago Museum, Christchurch Shell Club, and several separate departmental collections at Auckland, Victoria, Canterbury and Otago universities. Only three ‘*geological collections*’ were listed; those at the Geological Survey, the Oceanographic Institute, and the Department of Earth Sciences at the University of Waikato.

“New Zealand Marine Sciences. A Report by the New Zealand Marine Sciences Society, October 1983” was a significant document. It was produced by the Society to support current initiatives towards better co-ordination of marine science within the country (see above section on “Occasional Publications”). The Report referred its readers to ‘*the latest Marine Sciences Society Newsletter which summarises the present research by member institutions and individuals*’.

1984

The 1984 address to the annual conference by the President, Mr Gavin James, described by the president himself as ‘presidential remarks’ rather than an address, drew the Society’s attention to the increasingly more obvious trend towards ‘*politicisation of science*’ and especially to the increasing interest of politicians in ‘*ascertaining that scientific research undertaken ... is benefiting New Zealand to the greatest possible extent*’. Gavin James noted that the Society had compiled two reports in the last four years asking for ‘*better co-ordination, if not more funding, for marine science*’, so he felt that NZMSS could ‘*take some of the credit (or blame depending on your point of view) for the greater degree of accountability now being required of many research workers*’. Three important recent government initiatives were the development of annual Science Plans, the publication of a report on Science and Technology Policy Formation (on which the NZMSS Council had made a brief submission), and ‘*perhaps most important*’ the establishment of a Marine Sciences Liaison Group ‘*to foster better communication amongst institutions involved in marine research*’, with Professor John Wells to be the Society’s representative on the Group. The inaugural meeting and composition of the Liaison Group was reported in the 1984 Newsletter (# 27). Preceding his ‘*presidential remarks*’, at least in the Newsletter if not in actual timing, was, for the first time, a published Annual Report from the President. In the single-page report ‘*for the year ending August 1984*’, Gavin James described the main business of the Council at its six meetings during the year as conference planning for 1984, ’85 and ’86; interaction with NRAC on science planning and liaison; preparation of the “New Zealand Marine Sciences” report; updating the NZMSS Directory; and producing the “Marine Collections” document. He also thanked Bob Creese and his team for the excellent organisation of the 1983 conference – ‘*the largest meeting ever in terms of numbers of papers and participants*’ and Paul Gillespie and others for organising the 1984 Nelson conference. Gavin James congratulated Bob McDowall on being elected as a Fellow of the Royal Society – one of several nominations made by Council for Fellows or for positions on standing committees. He noted that Newsletter editing and production remained in the capable hands of Denis Gordon and Rosemarie Thompson.

The prize for best student paper at the 1984 annual conference was awarded to Paul McCabe, of the Earth Sciences Department of the University of Waikato, for a presentation on “Mangawai Inlet and inner shelf sedimentation”. The conference was held jointly with the NZ Ecological Society at the somewhat unusual venue of Nelson Boys College (from which the most lasting memory for this particular participant is of

the communal cold showers at this very traditional school!). An innovation at this 1984 conference was the inclusion of a well-supported poster session, with authors present to discuss their poster topics.

The usual diverse range of items, under ‘notices, meetings, announcements’ in Newsletter # 27, included the first issue of a Harbours and Foreshores Newsletter published in November by the Ministry of Transport, a request for chiton material and an offer to analyse zooplankton samples, the availability of the “R Tucker Thompson” schooner for hire, notice of an award for papers on sewage treatment or water pollution problems, and 50% discounts available to Society members on the DSIR published range of science journals (\$20.00 including postage per volume) and \$25.00 subscription to the Journal of the Royal Society, instead of the ordinary subscription of \$48.00. Also included were three short reports. The first on how the Marine Science Liaison Group will operate under the chairmanship in its first year, of Dr Robin Allen of Fisheries Research Division. The Group, which has the objective of promoting effective marine research, comprises eight ‘*core members*’, who are expected to attend all meetings, and ten or more ‘*associate members*’ who may attend at their own discretion. The core membership is made up of two from each of the Division of Marine and Freshwater Science, the Ministry of Agriculture and Fisheries, the NZ Universities, and the petroleum, mining and offshore engineering industries, plus one each from the Ministry of Works and the Fishing Industry Board. Associate members are Cawthron Institute, Commission for the Environment, Department of Lands and Survey, DSIR, Ministry of Transport, Ministry of Defence, Ministry of Energy, and NZ Geological, Geophysical and Marine Sciences Societies. The second report on “Marine ecological Areas of New Zealand” discussed a planned study by Ken King and Malcolm Clark of the Department of Lands and Survey, to classify marine and coastal areas into ecological units. They invited comment and suggestions on the research plan, and responses from people prepared to be involved or assist with regional input. The third short report from Applied Biochemistry Division at DSIR in Palmerston North described the content and possible use of “the DSIR Nutritional Database”.

Particularly prominent in the ‘*research notes*’ reporting the year’s events from the various institutions in the 1984 Newsletter were the words ‘*continues*’ and ‘*maintains*’ used in reference to staff and student studies and research activities. There were of course also numerous instances of ‘*commenced*’ and ‘*completed*’ as students reported starting or finishing their studies, and the substantial 21 pages of ‘*Bibliography*’ indicated that much marine research was still getting done and getting published.

1984 saw the completion of an Upper Waitemata Harbour Catchment Study by Professor Paul Williams of the Geography Department at Auckland University; new buildings, comprising an enlarged dining room and kitchen and six study-bedrooms, completed at Leigh Laboratory in time for Dr Tony Underwood from Sydney University to run a course on experimental design and analysis of variance in December; and development by the Physics Department of a multiple floating buoy tracking system capable of monitoring up to 20 buoys simultaneously to determine surface current patterns. At Victoria University Dr Bob Wear’s study of paddle crab bivalve predation, financed by a Golden Kiwi Research Grant and involving a team of five workers, was ‘stretching facilities (at the Island Bay Laboratory) to the full’. At Canterbury, Professor George Knox retired in March after more than 30 years in the

Zoology Department, but 'continues to work in his usual enthusiastic manner' as Professor Emeritus. Ten or more, mostly Canterbury University, scientists were continuing work on the vast collections of benthic invertebrates collected during December 1982 from '58 stations from 15 to 2,250 m depth off Kaikoura'. In May it was announced that a grant of \$2.1 million had been approved by the Government for the construction of new facilities at Portobello Marine Laboratory. Construction began on-site in September with occupation by mid-1986 anticipated. The new facility will comprise a four storey laboratory building, with ancillary buildings for research vessel and small boat gear storage, and will provide '*an increase of nearly five-fold in the space available for teaching and research purposes*'. Another 1984 announcement from Portobello was of the impending retirement, in January 1985, of Mr Bill Tubman, well known as the skipper of "RV Munida" ever since she was commissioned as the station's research vessel in 1966, and '*largely responsible for the efficient operation of the vessel through her 18 years of service*'.

Fisheries Management Division was in expansion mode during 1984, with four new scientists appointed in the Auckland region from Tauranga to Whangarei, six new appointments in the Central region covering the lower half of the North Island, and a new position of Training Officer, which saw Chris Clarke joining the Head Office science team of Jo Akroyd (responsible for management of crustacean and shellfish fisheries), Bob Cooper and John Town (fisheries management plans), Val Hinds (technical and client liaison responsibilities), Wendy Nelson (phycology and seaweed fisheries) and Kim Walshe (inshore policy and management issues). FMD staff in the Nelson and Southern regions remained unchanged, under Officer-in-Charge Allan Kilner and Ray Voller, respectively, except for the departure of Mike Bradstock from Nelson '*for a year's leave without pay in the USA*', during which time his book "Between the Tides" is expected to be published.

At the Wildlife Service of the Department of Internal Affairs, Mike Imber was researching New Zealand petrels with '*much effort being put into trying to find the breeding place of the very rare magenta petrel on the Chatham Islands*'. Telemetry was being tried to solve the problem using grey-faced petrels on Whale Island as guinea pigs. Applied Biochemistry Division of the DSIR provided a list of more than 50 finfish and shellfish species for which it has data on '*proximate composition of whole fish, fillet, head, viscera, skin and frame*' as well as seasonal variation in the composition of the fillets. Botany Division reported the on-going curation of its marine algal herbarium in Christchurch, which had increased by some 6000 specimens following the transfer, on long-term loan, of the R M Laing Algal Herbarium from Canterbury University's Botany Department. Early in the year the Division of Marine and Freshwater Science suffered '*the unfortunate and ill-timed necessity to terminate R V Tangaroa, after eleven years of continuous service*' and 155 scientific cruises since April 1973. This brought '*a spontaneous influx of sympathetic mail from overseas scientists who had sailed on her or knew of her work*'. Three other DSIR divisions were also reported to be involved in marine science. The Fish Processing Research Group at the Division of Horticulture and Processing was investigating techniques to better utilise marine resources, including smoking and modified-atmosphere packaging; Jim Rounick and Graeme Lyon at the Institute of Nuclear Sciences were using ^{14}C and ^{13}C analyses in various studies including fish predator prey relations and mussel feeding relationships; and John

Christeller, Bill Laing and Betty Terzaghi of Plant Physiology Division had a research project on the physiology of the rhodophyte seaweed *Gracilaria secundata*.

The National Museum, after 10 years of attempts to get '*sufficient space for the adequate housing and protection of collections, for the curation of specimens, preparation of exhibits, and for research work*', was able to announce that plans for temporary rental warehouse space to alleviate the overcrowding problems, which had been '*scrapped by the previous National Government (had) been approved by the Labour Government*'. At the beginning of 1984 those staff at the Commission for the Environment whose interests and responsibilities relate mainly to water and aquatic resources set up a '*Water Group*'. The Group is headed by Philip Tortell, whose wide ranging responsibilities include eutrophication, aquaculture and South Pacific issues. Jenny Boshier provides an engineering perspective on waste treat and management, Roger Cornforth on the marine and coastal environment, Peter Lawless on freshwater issues, Peter Kerse on coastal developments, and Ros Whiting brings expertise in water chemistry, aquatic recreation and energy issues.

1985

New editors but much the same content might aptly describe Newsletter # 28 published in December 1985. This was the first issue brought together by Mike Beardsell and Geoff Baird, both of whom were practising editors at the Fisheries Research Division. It opened with the usual set of abstracts from papers presented at the annual conference, which this year was held at the University of Canterbury at the now standard time of August. At the 1984 AGM the Society had decided to initiate an award for outstanding contribution to New Zealand marine science. After accepting nominations from Society members and taking full responsibility for choosing the recipient, the 1984-1985 Council opted to initially make the award of the prestigious "New Zealand Marine Science Society Award" to three eminent scientists who were considered to be '*founders of marine science in New Zealand*'. The three recipients were Professor Norm Barber, formerly of Victoria University and a former chief physicist of the Dominion Physical Laboratory, for his contribution to understanding '*the origin, behaviour and travel of ocean waves*', Mr Jim Brodie, the first Director of the NZ Oceanographic Institute, for his '*founding endeavours in the field of oceanography and the advancements he made in this discipline*', and to Professor George Knox, Professor Emeritus at the University of Canterbury, for his '*contribution to the study of New Zealand's marine invertebrates, his landmark work on the biogeography of the Southern Oceans, and his outstanding work as a synthesiser in marine ecology*'. The Award of life membership of the Society, a certificate, and an original bronze sculpture by Wellington artist Nick Dryden, was made to Professor Knox at the 1985 Society conference, and to Professor Barber and Mr Brodie at a ceremony held later at the Oceanographic Institute in Wellington.

Before listing all the year's activities, as reported by the various institutions, under '*research notes*', Newsletter # 28 included three general interest articles. The first was on "The Poor Knights Islands Marine Reserve", designated as a reserve in 1981. It describes the series of surveys undertaken in 1982/83, 1983/84 and 1984/85 by zoologists from Auckland University, in association with the reserve management committee, to '*provide the biological information necessary for management decisions*'. Commercial fishing issues are discussed, and it is suggested that '*pressure from marine scientists to ensure that credible monitoring and survey programmes are*

incorporated into marine reserve planning and maintenance would greatly assist management committees'. A second article by John Jillett of the Portobello Marine Laboratory, entitled "Trends by sector in marine science publication: an update", provided an analysis of the bibliographies published in the 1981 and 1983 NZMSS Newsletters, done along similar lines to that done earlier on bibliographies in Newsletters for the alternate years between 1969 and 1979. The earlier analysis had been published under the title of "Point of View" in Newsletter # 23 in 1980. The main *'trend'* shown in the analysis, between the 1981/83 data and the data for 1969-79, is one of increasing numbers of marine science publications over time. However only the numbers of university publications had increased significantly, while the other sectors (ie *'DSIR, MAF, museums, and others'*) showed no significant change. DSIR's output, as a percentage of the total number of publications, had decreased and the proportion emanating from *'others'* had increased, both by similar amounts, whereas only minor changes in the relative proportions of the other categories (ie MAF, museums and universities) occurred over time. The third article was the "Marine Sciences Liaison Group Annual Report (September 1985)", which reiterated the aims and objectives of the Group and listed the names of the representatives of the various core and associate members who had attended the Group's three meetings held between September 1984 and 1985. The Group's activities included a review of the availability of hydrological and bathymetric data *'of common interest collected by different organisations'*, and a review of *'data bases held by organisations involved in marine science'*. The Group was also preparing a *'listing of marine science projects in progress ... to provide a means of identifying areas of current or potential duplication or co-operation'*. The list, *'to be stored on the DSIR computer network and updated regularly'*, was expected to be of a size that would preclude general distribution but hard copies would be produced every two years for distribution to university and institutional libraries. As a result of a request from the Minister of Science and Technology for action on comments on estuarine research made at the Coastal Zone Management Seminar in October 1984, the Liaison Group had also set up a working party on estuarine research. The working party comprised Drs Noel Burns, Paul Gillespie, Harry Keys and John McKoy. It was tasked with reviewing current estuarine research and its co-ordination and with making recommendations on the need for further research and co-ordination.

In June 1984 the Nelson-based Fish Research Group of Massey University had joined with Auckland DSIR's Division of Horticulture and Processing to form a Fish Research Section with research facilities in the two major fish processing centres in New Zealand. Dr David Buisson headed the Section, from Auckland, with Neil Wilson as Officer-in-Charge of the Nelson unit. In April 1985 the Section organised a highly successful Fish Processing Conference in Nelson in association with "FISHEX '85". Field work in several aspects of geophysics and oceanography was somewhat curtailed during 1985 by lack of a replacement for "RV Tangaroa" and delays in a refit of "HMNZS Tui". On the other hand 1985 saw *'great changes in the fortunes of the National Museum'* with the establishment in October of the Natural History Unit at 135 Taranaki Street, Wellington to house all (except entomology) of the Museum's natural history collections and its curatorial and research staff. *'For the first time in 50 years the national collections will be housed in satisfactory conditions, with plenty of space for expansion.'* The list of members that completed the pages of Newsletter # 28 detailed the name, address and interests of the 120 members who had returned a questionnaire, which was a little over half of the current membership of 213.

1986

In her address, the first in the Society's history from a lady President, to the 1986 annual conference held at Victoria University of Wellington, Dr Rosie Hurst focussed on an *'eventful year'* in which the Society's Council *'found it difficult to respond promptly ... and in as much detail as perhaps we would have liked'*, in preparing submissions on *'a range of topics from marine reserves and hazardous wastes to the Science and Technology Plan and, perhaps the main issue of the year, the new government charging policy'*. The Society had relied to some extent on the Marine Science Liaison Group, and the Society's representative on the Group, Professor John Wells, to put forward a well co-ordinated marine science response. Rosie expressed concern over the effect that the government charging policy might have on the long-term viability of the societies such as NZMSS. Scientists rely on *'free exchange of ideas and information'* and the Society was set up *'to encourage communication between marine scientists'*. The President called for a commitment from all members *'to ensure that this type of information flow is not impaired by the new charging policy'*. Two events that were a pleasure for the President to report, were the arrival of the replacement oceanographic research vessel the "Rapuhia" and the *'practical completion'* of the Portobello Laboratory re-building. The latter would make it opportune for the Society to hold its next annual meeting at the University of Otago. The NZMSS Award for 1986 was presented to Dr Howard Choat for his *'major (and) pervasive influence on the quality of the marine research done at Leigh Laboratory'*, which has transformed the laboratory's reputation *'from that of a field station to a world recognised research institution'*. Dr Choat had just been appointed as Professor and Head of Department in Marine Biology at James Cook University in Townsville. Abstracts from 39 of the papers presented at the conference were published in Newsletter # 29, as was a brief report on the "Fish larval ecology seminar and workshop" held at Greta Point, Wellington in March, notices about a seminar on "Perspectives in marine natural products" in February 1987 and a "National Aquaculture Conference" in October 1987, a proposal for a "Flora of New Zealand: Benthic Marine Macroalgae", and announcement of the publication by Department of Lands and Survey of the papers from the 1983 offshore island symposium as "The Offshore Islands of Northern New Zealand", and by the Marine Science Liaison Group of its listing of marine science projects as "Marine Science in Progress".

Dr Bob Creese took on the position of Scientist-in-Charge of the Leigh Laboratory in 1986, with a fulltime administrative assistant to manage its day-to-day running, and with Associate Professor Brian Foster from the Zoology Department chairing the committee responsible for the overall management of the laboratory. At Victoria University Professor John Wells spent 1986 engrossed in administration for setting up the new School of Biological Sciences, to the exclusion of his meiofaunal research studies. On 22nd March the new wing of the Edward Percival Marine Station at Kaikoura was opened, by the Chancellor of the University of Canterbury, as the George Knox Research Laboratory. It comprised *'3 flats, a research laboratory, and a library-computer room and office for visiting scientists'*. A small public aquarium, built and financed by the Kaikoura Lions Club, was also handed over to the university during the opening ceremony. At Otago University, recognition of aquaculture as *'a special area of potential interdepartmental interest'* resulted in the setting up of an Aquaculture Research Centre, under the directorship of Professor Margaret Loutit. The Centre was an *'informal affiliation of staff from a broad spectrum of departments*

across several faculties’, which aimed to collaborate in research projects, sponsor applications for funds, and co-ordinate responses to requests for advice and assistance. The imminent completion of the re-developed Portobello Laboratory, together with the appointment of Dr David Buisson as Professor and Dean of the Faculty of Home Science, were two other notable events at the University of Otago in 1986. Following the first year of occupation of its Taranaki Street Natural History Unit, which included the massive job of shifting the entire spirit collection from the old Buckle Street building, the National Museum was assuring its clients and collaborators that *‘the quality of service in the future will be second to none’*, and for visiting workers *‘space and facilities are in abundance’*.

1987

The Society’s annual conference in August 1987 was held in Dunedin This was a joint meeting with the University of Otago Marine Science Symposium and was possibly the largest gathering yet of Society members. The President, Dr John McKoy, commented in his welcoming address on the large size of the meeting and the large number of papers (which included several invited presentations for the Symposium), and the consequential need to run concurrent sessions for the first time at the annual conference. The combination of the meeting with *‘the opening of a major new marine research facility – the Portobello Laboratory extensions’* gave John McKoy the excuse to voice his concern over the need for further investment in marine science, which in his view *‘has never been greater’*, and his hope that the investment in facilities *‘can somehow be matched with an appropriate level of staff and student activity’*. He contrasted the past few years of *‘unprecedented development of marine resources in New Zealand’s Exclusive Economic Zone, to the point where the fishing industry is now a major primary industry’*, with the scientists’ *‘strong sense of nervousness about the information on which we are expected to base our recommendations’* for managing the resources. John went on to discuss the disturbing effect that the budget cuts imposed on major research institutions were having on the information flow that most scientists *‘took for granted as being the lifeblood of science’*. The budget cuts for fisheries research in MAF amounted to 35% over 1985-90 and were even higher for research in DSIR and MWD. The President’s concluding message was that science in general needs to *‘start selling itself a bit more’*, so that the general public, and presumably the politicians, become aware of the capable and cost-effective way in which our science is conducted, to substantiate the need for a much greater investment in research.

The abstracts from 70 papers presented at the 1987 conference were included in Newsletter # 30. Delegates at the conference were able to attend the opening of the new facilities at Portobello Marine Laboratory, on 26th August, and to see the range of analytical, data acquisition and processing, and experimental equipment that a \$1.82 million grant had enabled the facility to acquire for field work and teaching purposes and for postgraduate research. During 1987 Professor Pat Bergquist took over as Head of Department in Zoology at the University of Auckland, but hoped that it *‘will not require taking a lower research profile since present interest in sponge biology, chemistry and pharmacology is at a high level worldwide’*. Associate Professor Terry Healy was appointed Director of the new Water Research Unit at the University of Waikato. A Coastal Marine Research Unit, based at the Island Bay Marine Laboratory, was established at Victoria University in October, under Director, Dr Bob Wear. This business-oriented unit *‘provides an umbrella for academic staff to*

negotiate and carry out new research contracts'. Budget cuts and the user-pays policy resulted in a more commercial emphasis to the work of the Fisheries Research Centre's Aquaculture Section, headed by Dr Len Tong, with courses on paua culture, consulting for marine farming and reseeded projects, and R&D of other potential aquaculture products. Cabinet approved funds for the design and building of a new 70 metre deepwater research vessel able to carry up to 14 scientific staff as well as the crew, and with *'freezer capacity to retain catches for sale to offset costs'*. The new vessel would be *'the single biggest expenditure in the history of New Zealand marine research'*. Meanwhile the existing research vessel "GRV James Cook" had successfully spent 270 days at sea during 1986-87, 67 on orange roughy, 62 on snapper and 44 on hoki, with 95 days used for rock lobster, paua, tarakihi and marine mammal studies. Under its new name of MAFFish, the Fisheries Management Division of the Ministry of Agriculture and Fisheries continued its organisational changes in 1987. Peter Brierley was appointed to the new position of Regional Manager of Fisheries, with responsibility for the Central and Challenger Fishery Management Areas. Government reorganisation of its environmental departments led to responsibility for marine reserves, and for marine mammals, shifting from MAFFish to the newly formed Department of Conservation (DOC). The Conservation Act 1987 amalgamated the Department of Lands and Survey, the Forest Service and the Wildlife Service to form the new Department. DOC was given the responsibility of administering all crown land, which includes maritime parks, marine reserves, river margins, some coastline and wetlands, and many offshore islands. The commissioning of the "Rapuhia" led to the resumption of survey and oceanographic cruises by Geophysics Division and the Oceanographic Institute. Renowned algologist Nancy Adams retired from the National Museum and her position was taken by Dr Wendy Nelson from MAF *'whose long term research commitment is to contribute to an algal flora of New Zealand'*. Bioresearches Ltd is in its fifteenth year of operation, servicing clients in both private and local government sectors. As usual an extensive bibliography, in this case over 250 items, comprised the *'Recent Publications'* as the concluding section of Newsletter # 30, accompanied by the Editors' oft repeated note that the list is *'not exhaustive'* and generally does not include internal reports and popular non-refereed articles.

1988

The final Newsletter published during the 1980s decade was an unusually slim volume. Whether the "slim-ness" of Newsletter # 31, published in December 1988, is the result of the two-column format used for the first time in this issue or relates to a reduction in the amount of text submitted for publication is not stated. It could possibly reflect the editorial skills of new editor Dr David Schiel from Fisheries Research Division, or even the technical help he received from Margaret Sang and Terry Crayford of the division's editorial section. The Newsletter contains all the usual contents of conference report, notices, research news and recent publications, all fitted into 59 pages instead of the 100 or more pages of content of recent issues. In his other role as President of NZMSS, Dr Schiel devoted his address to the annual conference to the topic of "Scientific Responsibility in the Face of Adversity". In a hard-hitting presentation, enlivened by Larsen cartoons, David Schiel added his "most extreme concern" to the increasing levels of "concern", "deep concern" and "very concerned" expressed by previous Presidents over the *'financial pills that we have been forced to swallow'*, which have been *'quite savage'* and *'indiscriminate'*. He was concerned over the public perception, fomented by the media and government

ministers, that scientists are '*divorced from reality*' and though drawing heavily on the public purse '*have not been efficient*'. He suggested however that there are things that we as scientists can do to change the perception by continually scrutinising our spending to get the most out of the reduced budgets, by using the most effective scientific procedures, by communicating and co-operating, by allowing our accountability to be scrutinised at every level, and by '*defending our work vigorously against the onslaught of managers who feel they can "manage" our resources without recourse to the data, results and interpretations we as scientists procure*'.

The 1988 conference was held in the Old Arts Building at the University of Auckland, jointly with the New Zealand Ocean Waves Society and without the need to run concurrent sessions. An NZMSS Award was presented by President Dr David Schiel to Professor John Morton in the year of his retirement from the Zoology Department of the University of Auckland. Among Professor Morton's long list of achievements are his strong stand on environmental issues, establishing ecology as vital to teaching at the University, getting the Leigh Laboratory established, and introducing hundreds of students to zoology with a '*graphic, enthusiastic and demonstrative teaching style*'. A photo of the presentation of the Award was published in Newsletter # 31. It was the first time a photograph had been printed in the Newsletter. The conference dinner held in the Student Union was addressed by Simon Upton, the Opposition Spokesperson on Science, who was soon to take up a Rhodes Scholarship. A précis of his address was also included in the Newsletter. The best student paper prize went to Michelle Stevens of the Botany Department of Auckland University for a paper entitled "*Circadian rhythms in *Gracilaria sordida**". Another first in the 1988 Newsletter was the publication of the Society's accounts, which it was felt by the Treasurer at the time, Mr R W Hickman, should be available to all the Society's membership, rather than, as had been the case hitherto, only to those who attended the AGM. The "*Statement of activities and members funds for the year ended 31 March, 1988*" showed a pleasing increase in the balance of funds from \$1974 in the previous year to \$3030 in the current year.

The School of Biological Sciences at Victoria University of Wellington was established on 1st July 1988 bringing together the former Departments of Biochemistry, Botany, Physiology and Zoology. MAFFish continued its seemingly endless process of reorganisation during 1988, with the transfer of the staff formerly based at Napier to its Nelson office. A major new entry in the '*Research News*' section of Newsletter # 31 was a report on the activities and staff of the newly established Department of Conservation. Management aspects of '*near-shore waters, foreshores and sea bed, marine reserves, harbours, navigable rivers and lakes, and marine mammals*' are co-ordinated by the Coastal and Marine Directorate at DOC's Wellington head office. A Science and Research Directorate, located in Tory Street, Wellington administers nine marine research-related programmes '*ranging from icebergs in Antarctica, through penguins, whales and seals, to seabirds and subantarctic flightless teal*'. DOC's research and management projects are spread throughout the country: Paul Irving in Auckland is preparing a marine reserves strategy covering both existing reserves at the Poor Knights and Leigh and a proposal for the Kermadec Islands; Stuart Moore and Linda Abrahamson are investigating marine reserves, protected areas and a coastal resource inventory for the Waikato region, with Keith Owen and Tony Seymour in Gisborne doing similar work for the Eastern region, and Leonie Fechny at Wanganui has produced a discussion document

for a Kapiti Island marine reserve. At DOC's Central office, Jeremy Gibb, who is Director of the Coastal and Marine Directorate, is studying sea level rise in response to the greenhouse effect, whilst Andrew Jeffs and Kathy Walls are reviewing the Marine Reserves Act. Investigations of marine reserve sites in the South Island include Andrew Baxter in Nelson, with particular interest in the Whanganui Inlet, Fred Overmars on the West Coast, and Glen Lauder in the Southern Region with potential sites at Shag Point and Moeraki (with their endangered yellow-eyed penguin populations), on the Catlins coast, and in Fiordland, particularly in areas with black coral. Kerry Mawhinney in Christchurch has produced a discussion document on the protection of Hector's dolphin around Banks Peninsula. The Science and Research Directorate in Wellington, under Director Richard Sadlier, has research projects on foraging of Adelie penguins (Richard Sadlier and Ross Pickard), marine mammals in the New Zealand and Southwest Pacific regions (Martin Cawthorn), red-billed gulls at Kaikoura (Jim Mills), rockhopper penguins at Campbell Island (Phil Moors and Duncan Cameron), the taiko (or magenta petrel) at the Chatham Islands (Mike Imber), gannet and albatross ecology (Chris Robertson), yellow-eyed penguins on Campbell Island (Peter Moore), iceberg distribution in the Ross Sea (Harry Keys), and subantarctic teal on the Auckland Islands (Murray Williams).

DSIR was again in reorganisation mode in 1988 with the disestablishment on 1st October of the Division of Marine and Freshwater Science and the creation of the new, larger Division of Water Sciences, which incorporated scientists from the former Ministry of Works Water and Soil Division. The continuing work of the Oceanographic Institute and the Taupo Research Laboratory was focussed on nine marine research programmes, namely the West Coast ecosystem, Ocean climate, Continental margin geological mapping, Aquatic environmental assessment, the Cook Strait geological and physical oceanographic regime, Resource charting, Marine benthos of the EEZ, Lake and harbour sediment, and Marine minerals, but with most staff also involved in contract work. With the demise of the Ministry of Works and Development and the transfer of Water and Soil Division to the new Division of Water Sciences, a new building on the Waikato University campus now houses the Water Quality Centre. Under the direction of Scientist-in-charge Dr Noel Burns, the Centre *'continues with research and consultancy into the fate and effect of pollutants in marine waters (and with) programmes to monitor, predict and manage impacts in coastal and estuarine environments'*. The diverse interests and projects of the eleven scientists working at the Water Quality Centre under Noel Burns, cover outfall studies and hydrodynamics (Rob Bell), ecotoxicity (Chris Hickey), sedimentation and estuarine geomorphology (Terry Hume), microbiology (Graham McBride), biological monitoring techniques (Dave Roper), eutrophication (Kit Rutherford), Manukau water quality (Dave Smith), coastal surveying (Keith Smith), sewage effluent effects (Bill Vant), ecological monitoring (Simon Thrush) and pesticide effects on ecology (Bob Wilcock).

Although still adjusting to recent changes, the Natural History Unit was not insulated from discussions taking place during 1988, by the Project Development Board of the National Museum, concerning the proposed new Museums of New Zealand concept. How natural history research would fit into the new system, or the impact it might have on jobs and research directions of the Unit's scientists is yet to be determined, but it has been announced that as of July 1989 the National Museum will cease to be

part of the Department of Internal Affairs and instead will be *'controlled and managed directly by a Board of Trustees'*.

Reflective of the commercial focus of marine science at this time, Newsletter # 31 contained reports from two consultancy companies. Joining Bioresarches Ltd in the Newsletter was a new *'marine ecological consultancy'*, established in late 1987 and named Ecoscan Associates Ltd. The company, with eleven Associates and two Directors, Marjorie van Roon and Lew Ritchie, specialises in marine ecology, water quality, water rights, environmental impact reporting, marine reserves, marine fisheries assessments, aquaculture, harbour management, coastal and maritime planning, and conservation education. The new two column layout of the Newsletter enabled 300 *'recent publications'* (and ten charts) to be listed in less than twelve pages, and to show that despite all the reorganisation and cost-cutting going on within marine science during the 1980s, a high level of scientific output was still being achieved.

1989

The last year of the 1980's saw Society membership running at a high level in 1989 (258 members in total), with some 30 names listed in a *'welcome'* to new members published in the Society pages of Newsletter # 32, and the accounts showing NZMSS to be in a good financial state, with again a substantial increase in the end of year balance of funds, although the significant expenditure associated with Newsletter printing and postage had not yet come to account.

The 1989 conference, held at the National Museum, was addressed first by the Honourable Mike Moore, Minister for External Relations and Trade, who admitted to a growing awareness amongst politicians of the power of the "green vote". He suggested that *'Labour has recognised and acted on the need to strengthen the role of environmental factors in decision-making (and) all Government policy is now checked for environmental implications'*. A précis of the Minister's address was printed in Newsletter # 32 as was the text of the subsequent address by the President, Dr David Schiel. He touched on the continuing prospect of *'restructuring of organisations, primarily through funding cuts or transfer of resources'*, and voiced concern over the lack of information about the forthcoming formation of the Ministry of Research, Science and Technology *'which will have long-range consequences on the types of research done in NZ'*, but the essential message of the address was the need for scientists *'to demonstrate our efficiency and accountability'*. This, the President said, is *'the currency of modern science'* and can be achieved by having *'proper objectives, cost-effective sampling and experimental designs, writing up results and publishing our work'*. There followed a session of keynote speeches from people who are both scientist and science manager, from universities (John Jillett and Ned Pankhurst), from DSIR (Ron Heath), from MAFFish (Len Tong) and from DOC (Rob McColl). They offered their thoughts on the directions and objectives of marine science into the 1990s. The 35 research papers presented at the conference (with abstracts published in the Newsletter) included an *'encouraging'* large number of graduate student contributions but a *'less encouraging ... fall off in support by a number of Government agencies'*. The best student paper prize was awarded to Angela Jones of the Zoology Department at the University of Auckland for a paper on "The macroparasite fauna of snapper". The conference dinner was held at the Pines Cabaret, overlooking Cook Strait, with Ken Shirley (MP for Tasman) as guest speaker. The concluding session of

the conference was a fascinating presentation of video images from the depths of Milford Sound and the Otago Canyons and of orange roughly spawning aggregations.

The ‘*Notices*’ section of Newsletter # 32 comprised only an announcement for the “World Fisheries Congress” to be held in Athens in 1991, a report by Dr Terry Healy on the activities of the National Committee for Oceanic Research (a subcommittee of the Royal Society of New Zealand), and a ‘*special offer*’ from DSIR Publishing of a \$50/annum subscription to any of its quarterly research journals. During 1989 Professor John Morton retired from Auckland University and Professor Philip Mladenov took up the new position of Professor of Marine Science at Otago University. At the MAF Fisheries Research Centre at Greta Point in Wellington, Dr Peter Smith became the leader of the combined Fish Biology and Aquaculture Groups and Dr Don Robertson was active as Project Co-ordinator following ‘*Cabinet re-approval of the new deepwater research vessel announced in the 1989 budget*’. The vessel will have a total complement of 36 crew and scientists and ‘*be able to work between the tropics and the edge of the pack ice, and trawl to 2000m depth*’. Dr Geoff Hicks undertook a ‘*fact-finding mission for the Museum of New Zealand (MONZ)*’ to the Smithsonian Institution and the London Natural History Museum, where he investigated ‘*the organisation and function of interpretation science in natural history museums*’. The DSIR’s Division of Water Sciences, set up after the disestablishment of the Division of Marine and Freshwater Science in 1988, now comprises the Water Quality Centre at Hamilton (Manager, Noel Burns), the Taupo Research Laboratory (Manager, Eddie White), the NZ Oceanographic Institute in Wellington (Manager, Janet Bradford), the Hydrology Centre at Christchurch (Manager, Richard Ibbitt) and the Water Resources Survey at 14 sites around the country with headquarters in Wellington (Manager, Paul Mosley).. The Natural History Department of TVNZ has developed its strength in the marine documentary field, notably through the purchase, jointly with Otago University, of a “Deep Cam Phantom Remote Operated Vehicle (ROV)” which allows filming of marine life down to 500 metres. Its use in Antarctica will screen in early 1990 in a “Wild South” documentary called “Under the Ice”. Other video productions from the Natural History Department on marine topics include “Tale of the Crayfish”, “Poor Knights”, “Cold Water, Warm Blood” and “Mirrorworld”, which looks below the surface in Fiordland at black coral communities. The ‘*Recent Publications*’ section of Newsletter # 32, for the first time in 1989, categorised the papers by institution rather than combining all 374 of them into one alphabetical listing by author.

The end of the 1980s and the start of the 1990s for the NZMSS were rolled seamlessly together by the publication of the annual Newsletter, not in December 1989 as had been the traditional end of year timing for the past 15 years but in February 1990. It thereby set a precedent for the next four issues of the Society’s newsletter to appear in the early part of the year. Ned Pankhurst of the Leigh Laboratory took on the task of editing what turned out to be the final Newsletter of the series (# 32), published as mentioned above in February 1990. Ned continued as Editor for the first two issues of the “New Zealand Marine Sciences Review”, published in 1991 and 1992 as Review # 33 and # 34 respectively, thus retaining the numbering sequence of the Newsletter series. The change of name resulted from a decision made by the members present at the Society’s AGM held during the annual conference at the University of Waikato in August 1990. It was proposed that the annual Review would carry the same range of information previously included in the Newsletter, and a less formal short newsletter

would be published at more frequent intervals to publicise topical events and news. Dr Bob Creese of the Leigh Marine Laboratory offered to be responsible for the initial issue of the new newsletter. [Only two or possibly three of these “mini” newsletters were ever published.]

The 1990s Decade, 1990-1999 (Reviews # 33-42)

With an increasing membership, now over 300, and a burgeoning balance of funds, partly as a result of '*a better than usual response to subscription renewal notices*', the Society could be forgiven for looking optimistically into the 1990s and hoping that the disruption, upheaval and uncertainty that had prevailed during the previous decade of reorganisation, budget constraint and the commercial imperative, might be over and marine scientists might be able to devote their efforts to marine science.

At the age of 30 the New Zealand Marine Sciences Society was a recognised and respected member of the marine science community, with a well-established modus operandum strongly focussed on its objectives of encouragement, communication, spokespersonship, and co-operation in marine research. As numerous past Presidents of the Society had pointed out in their presidential addresses, and Presidents to come would continue to do so, there are two major activities in the Society's year that provide the most and the best opportunities for the Society to achieve its four objectives. Holding an annual conference and publishing an annual newsletter are these two most tangible ways in which NZMSS contributes to expanding and improving the profile of marine science in New Zealand. The important contribution to this expansion and improvement achieved through two other Society endeavours, namely support for students and the NZ Marine Science Society Award, should however not be overlooked or underestimated.

The Annual Conference

The first conference of the decade was held in August 1990 at the University of Waikato. The conference included a joint symposium with the NZ Ocean Waves Society. A total of 58 papers and 13 posters were presented, a '*considerably higher (number) than in recent years*', with a '*resurgence*' in presentations from Government agencies and strong participation from students. The President's Address from Dr Alistair MacDiarmid explored the theme of quality marine science in the 1990s, pointing out that quality research, through '*interaction and stimulation*' together with communication, had been one of the prime reasons for founding the Society 30 years earlier. The President stressed the importance of the Society maintaining the '*exchange of ideas*' that is possible at its annual conference, and '*hopefully in a friendly and relaxed manner*'.

Annual conferences were held each year, usually at the end of August, throughout the decade, with the venue rotating around the various universities, except for 1991 and 1993 when the gatherings took place at the National Museum in Wellington and the Quality Inn in Nelson, respectively. Half of these annual conferences were held jointly or in conjunction with other societies or associations with similar interests (see Table 1). This added to the breadth of the topics discussed and tended to increase the overall size of the gatherings. The 1992 conference, for example, which was held at the University of Otago and immediately preceded by an Australasian Marine Sciences Consortium one-day symposium, was described in the '*conference news*' of Review # 35, the first of three edited by Professor Philip Mladenov, as being '*one of the largest NZMSS conferences ever, with a total of 165 participants*'. It included the presentation of 85 papers and 12 posters.

The generally increasing size of NZMSS conferences during this decade is to some extent reflected in the numbers of abstracts published in successive issues of the annual Review. Abstracts for 109 papers from the 1994 conference (held jointly with NZ Limnological Society) were published in Review # 37. The abstracts from the 1996 conference comprised over one-third of the content of Review # 39. The huge size of the joint NZMSS/AMSA conference in Auckland in 1997 precluded the publication of the Abstracts in Review # 40, and even just to list the author and title details of the 231 papers (in the 39 topic sessions) and the 48 posters took up 24 pages. By this time conference handbooks providing programme details and abstracts of all presentations, were de rigueur for conference organisers, and the practice of repeating the publication of the abstracts in the Review was discontinued for several years. This also coincided with a period of questioning the value of, the need for, and the cost of producing the Society's annual publication.

Opening Addresses. Over the decade the focus of the President's address, invariably delivered at the opening of the annual conference, shifted from overtly addressing some topically important marine science issue, to more subtle discussion of such issues from a strictly Society perspective and in the context of the year's activities of the Society's Council. In 1991 President Dr Alistair MacDiarmid addressed the issue of the funding constraints being placed on students and on universities that could mean that *'marine science could soon become the realm of the elderly as fewer and fewer young people can afford the necessary study'*, and as students *'weigh the substantial costs of an education in marine science against the unattractive salaries on offer to newly graduated PhDs'*. The following year Dr Chris Battershill took on "The defence of New Zealand marine science" by arguing firstly that quality marine science research and knowledge provides the best defence for our natural marine resources, and secondly that marine science itself needs to be defended against further losses of staff and funding resulting from on-going restructuring.

President Ken Grange approached essentially the same topic in 1993, but he found encouragement in the large number of presentations to be given at this Nelson conference *'in the face of the massive changes to marine science in New Zealand over the past year'*. He cited changes at DSIR, universities, DOC, the Museum of NZ, MAF, and even at that *'bastion of traditional science, the Royal Society of New Zealand'*. However, he saw roles for marine scientists, and for the Society, in providing *'open and effective communication'*, *'objective advice and peer review'* for sustainable resource management, and the *'wise ecological research'* required in complex situations such as marine reserves. Ken Grange's second presidential address, delivered the following year in Hamilton, focussed on the *'exciting times ... as government realises the worth of increased spending on science'*, rather than on the *'trying times (caused by) the endless structural changes to both funding and organisations'*. He considered that the increased funding for the Public Good Science Fund announced in the budget was good news, and that the New Year's Honours awarded to Professor Pat Bergquist (DCNZ) and to Dr Bill Ballantine (MBE) were a sign of the increasing prominence and recognition of marine science in our everyday lives.

In her address to both the 1995 Wellington conference and the 1996 Christchurch one, President Dr Liz Slooten was pleased to *'take the opportunity to give a brief run down on what your council has been up to during the year'*. In 1995 the main activities had

been *'slow but steady progress'* on a marine research strategy, contracting Ocean Blue Consultants to help *'promotion and development of marine science in NZ'*, establishing a *'listserv'* to improve communication, and making submissions on marine research funding, FRST research strategies, the fisheries legislation review, fisheries research restructuring and marine reserves proposals. In 1996 Dr Slooten reported progress made on most of these issues, with the promotion and development report from the consultants finished, and the marine research strategy advanced to a critical point. However, confusion over its status, whether that of a *'stakeholder'* or a *'science provider'*, had made it difficult for the Society to participate in *'the process of planning and cost recovery for fisheries research'*. The Council had also taken the initiative on promoting discussion on ways of managing the marine environment of Fiordland and had secured a Lottery Board grant *'to start a process of public consultation on this issue'*.

The following year President Dr Rob Murdoch reported further progress after a *'full and demanding year'* of Council activities, which included organisation of the NZMSS/AMSA conference in Auckland, submissions on fisheries research as an Approved Party for the 1997/98 fishing year, completion and dissemination of the advocacy survey "Great Leagues Forward", and *'correcting the financial position of the Society'* by obtaining approval at a Special General Meeting to increase the subscription rates. In 1998, in the second year of his presidency, Rob Murdoch discussed the links between the UN International Year of the Ocean, environmental issues, and the role of science. He suggested the time was ripe for a national ocean strategy *'to ensure that appropriate resources are allocated to research and management of our marine environment'*. As President of the Society Dr Murdoch had been asked to prepare a marine environment strategy for the Foresight Project, in which the Ministry of Research Science and Technology is formulating research priorities for science through to 2020.

Dr Russ Babcock, the President in 1999, identified two highlights of the year as the Society's promotion of marine ecosystem protection, largely through the efforts of Chris Paulin and Clive Roberts to establish a Fiordland World Heritage Area, and the Society's involvement in the NIWA Sea Views programme that takes children to *'school'* on the "Kaharoa". The Society is less positive, indeed concerned, about amendments to fisheries legislation that would see the *'purchasing of fisheries research devolved to the industry'*. The President admitted to have already started the lobbying process as he introduced Dr Morgan Williams, the Parliamentary Commissioner for the Environment, whose role is *'to review and assess the effectiveness of Government agencies in managing and protecting natural and physical resources'*, and invited him to open the 1999 annual conference in Wellington.

Annual General Meetings. The practice of regularly publishing the Minutes of the Society's AGM in the Review did not really start until 1999 in Review # 41. One full report (not the Minutes), for the AGM held in Hamilton in September 1994, was published in 1995 (in Review # 37), but otherwise only a short précis covering *'matters of importance at the AGM'* was generally included in the Review, in an item reporting on the conference. Even the précis was absent in 1996, '97 and '98 when the President's Address largely comprised a report of Council activities for the year.

Although short and concise, the AGM précis could nevertheless be informative. In 1990 the AGM discussed subscription levels and setting up an Overseas Conference Fund, heard from Roger Waite about Ministry of Research Science and Technology review processes and from Terry Healy about the National Committee on Oceanic Research, and voiced concern about *'perceived policy direction of the Department of Conservation on research in marine reserves'*. In 1991 the discussion was largely financial, about the overseas travel fund, the subscription level and Council members travel costs, but there was also concern that not all of the material that might be was being included in the Review. Finance was again on the AGM agenda in 1992, with \$500 of NZMSS funds set aside for compiling the Review, and agreement to *'include appropriate material in mail-outs in return for suitable remuneration'* but not to sell or release the membership list. It was agreed that posters should be eligible for student prizes and it was suggested that the Society be more pro-active on marine reserves by calling for a national policy. By the 1993 AGM talk of finance had moved to *'ways of spending the "surplus" money'* that had resulted from *'the good management of past and present treasurers'*. Council was authorised to set aside money *'for discretionary spending, and/or student research, and/or travel to conferences'*. Members asked for more rapid communication, by more regular newsletters or by setting up an email network.

In the more comprehensive 1994 AGM report published in Review # 37, President Ken Grange listed a range of written submissions made by the Council on Coastal Policy, FORST's Fisheries and Aquatic Sciences outputs, research vessels, the Banks Peninsula Marine Mammal Sanctuary, and several marine reserve proposals. He reported success in securing a Lotteries Board grant for the Fiordland protection plan, and in setting up an email Bulletin Board. Treasurer Abby Smith addressed the issue of whether, in the light of the previous year's focus on ways of spending "surplus" funds, the Society is *'really spending more money than we are earning'*. Review editor Philip Mladenov offered to continue but required *'\$1500 for typing and editorial assistance'*. A draft tender for *'preparation of advocacy plans to promote and develop marine science in NZ'* was discussed and the AGM decided to spend *'around \$5000'* on the tender, but to apply to other agencies for funding to further develop and implement the advocacy plans.

AGM reports were not published for 1995-97, nor the financial reports for 1996-97, although much of the activities of the Council during these years was mentioned and published in the President's Address delivered at the annual conference. Publication of the full Minutes of the AGM, together with the Annual Financial Report from the Treasurer, became standard practice in the Review from 1999 onward.

The Minutes of the 1998 AGM held in Dunedin contain the standard agenda items of apologies (from three members), previous year's minutes (accepted), President's Report (from Rob Murdoch reporting a busy year of lobbying on fisheries management and on the DOC white paper), and the Financial Report (from Bob Hickman reporting the Society's finances to be in good health). Other matters discussed at the AGM were the Foresight Project (with the suggestion that NZMSS should contribute to the marine component), the use of the Webpage (recently upgraded), and the future of the Review (for which the publication cost had been reduced by not including abstracts of conference papers, since *'these are accessible on the homepage'*). Fiordland marine environment protection, the 1999 conference

venue in Wellington, the Year of the Ocean, and New Zealand's international obligations on marine issues, were other matters discussed by the AGM, before election of the Council for 1998/99, and closure of the meeting after an hour and a quarter.

The last AGM of the 1990s, held in the Hugh MacKenzie Lecture Theatres block at Victoria University, Wellington, managed to complete all its business in 45 minutes. A succinct President's Report from Russ Babcock covered lobbying on the Fisheries Amendment Bill, future publication of the Review on the Society's homepage but '*with hard copies available to members without Internet access*', and the involvement of NZMSS in '*the issue of seamount protection*'. An uncomplicated Financial Report from Bob Hickman showing a balance of funds of over \$22,000 was accepted. The 2000 conference to be held in Hamilton was discussed. All nominations for election or re-election to the Council were elected unopposed. A proposal to have a student representative on Council was accepted, with Carol Stewart, the proposer, suggesting Sam du Fresne of Otago University as a possible candidate. The one item of general business at the AGM was a suggestion from Dr Alistair MacDiarmid that the Society endorse a Code of Conduct for animal experimentation, which the meeting agreed to investigate by posting a Code on the Society's homepage for comment.

The Annual Newsletter

In its new incarnation as the Review, the Society's annual newsletter headed into the 1990s decade with a now well-established format for presenting a relatively concise annual summary of the marine science activities of both the Society and the marine sciences community throughout New Zealand. The opening pages, describing the Society itself, include subscription and current membership details, as well as the names of the year's office holders and Council members, and a '*welcome*' list of names of new members. Also published in these pages is the audited financial report showing the Society's income, which is largely derived from subscriptions, and its expenditure, which is mainly on the annual Review and on support for its student members. The next section, on the annual conference, includes the President's Address and that of any invited or keynote speaker, together with brief statistics concerning the meeting, such as numbers of delegates, numbers of papers, prizes awarded, etc, and a précis of business from the AGM, all followed by the abstracts of the conference papers. The '*Notices*' section is the repository for a variety of reports on awards, travel, etc, and for announcements, book reviews and other miscellaneous items. The bulk of the Review is the '*Research News*' which describes the activities over the previous year of staff and students, laboratories and vessels, at the universities, museums and government departments, and other institutions, agencies and companies claiming an involvement in marine science. Completing the content of most issues of the Review are numerous pages of '*Recent Publications*', which provide a bibliography of marine science research in New Zealand. In the 1993-1995 issues an additional few pages at the end of the Review comprised a complete membership list for that year.

In the almost 1100 printed pages that together make up the ten issues of New Zealand Marine Science Review (#s 33-42) covering the 1990s, are countless facts, figures, names, information, notices and anecdotes related to all the significant, and the not so

significant, marine science events of the decade. A summary of all 1100 pages must inevitably be as eclectic as it is subjective.

Most of the “facts, figures and names” are recorded in the ‘*research news*’ section of each issue of the Review. “Facts”, such as those concerning topics and progress in the research projects of individual staff or students, “figures” of, for example, the numbers of cruises undertaken, courses run, or visitors received, and “names” of, amongst others, the hundreds of students doing undergraduate and graduate courses in the marine sciences, fill the many pages of what is probably the most read and consulted section of the Review.

It is the “information” contained in the ‘*research news*’ section that keeps Society members in touch (at least annually) with the diverse activity occurring in all fields of marine science throughout the decade. Much of this information relates to the continuing saga of major restructuring and reorganisation within marine science that continues unabated from the previous decade (and is documented in detail under the section on “The Changing Scene” below). Much, however, also relates to the less disruptive but no less important events of the decade, some examples from each year of the 1990s can be seen in the following sentences.

- In 1991 the two marine departments at Auckland Museum – Marine Biology, under curator Brett Stephenson and Marine Invertebrates, under Bruce Hayward – moved into newly renovated offices and facilities with ‘*technicians’ space, a marine library, store and a new collection storage facility*’. The arrival of RV Tangaroa in June 1991 brought with it a new capability for fisheries stock assessment as well as deep water oceanography, marine biology, geology and geophysics.
- In 1992 Sally Carson at the University of Otago’s Department of Marine Science was developing a Public Education Programme for schools, universities, teachers colleges and special interest groups, as well as a national public awareness campaign called Seaweek.
- 1993 saw continuing growth in marine related research at Cawthron Institute, which included the purchase of ‘*an embryonic shellfish hatchery facility*’, to be called the Glenhaven Aquaculture Centre, to enable ‘*the expansion of its fundamental research into the biology of economically important species*’.
- 1994 was the year of publication of “Seaweeds in New Zealand” by Nancy Adams, who was by then an Honorary Research Associate at the Museum of New Zealand. This seminal treatise was described at the time as ‘*a magnificent book and a milestone for phycology and marine biology in New Zealand*’.
- A significant but sad event during 1995 was the decision by Victoria University to sell its research vessel the “Tirohia” after 30 years of service – a decision precipitated by the sudden death of Mr Bill MacQueen who had been its skipper for most of that time.
- Happier news from Victoria during 1995-96 was the development of a public education and awareness programme at the extensively renovated Island Bay Marine Laboratory, to be run by Dr Victor Anderlini and Ms Judy Hutt.
- The New Zealand Marine Studies Centre, at the Portobello Laboratory, was completed in May 1997 to provide a well-equipped marine education facility with ‘*stunning views of Otago Harbour*’. In the same year Dr Jonathan Gardner took over as Manager of the Island Bay Marine Laboratory when Dr Bob Wear stepped down after 20 years as Biologist-in-charge. The “Raukawa

Challenger”, ‘*an 8.5 m aluminium trihull*’, was launched in September 1997 as a replacement for Victoria University’s research vessel “Tirohia”.

- February 1998 saw the opening of Te Papa Tongarewa (Museum of New Zealand) at its new site on the Wellington Harbour waterfront. It also saw the retirement of Peter Castle as Associate Professor of Zoology in the School of Biological Sciences at Victoria University and of John Jillett as Associate Professor in Marine Science at Otago University, each of them after a long and extremely illustrious career in both research and education. Peter Castle died suddenly the following year.
- A further loss to marine research occurred in May 1999 with the retirement of Dr Len Tong, whose leadership and innovation had contributed significantly to the reputation of NIWA’s Mahanga Bay Aquaculture Centre as a quality research provider. During 1999 Natural History New Zealand (soon to be known only as NHNZ) completed eight one-hour programmes ‘*with marine or underwater subject matter*’ from the Antarctic to Northern Asia, Parengarenga to the Poor Knights, from the Chatham Islands, Christmas Island, Australia and Brazil.

“Notices” published in the Review during the 1990s were as varied as had appeared in earlier issues. The ‘*Notices*’ section of Review # 33 in 1990 comprised just two items. One provided details, including eligibility criteria and application procedure, for the newly established First Overseas Conference Travel Fund. The other was an article, accompanied by one of the very few photographs yet to appear in the Newsletter/Review, on the presentation of the “NZ Marine Sciences Society Award” by Dr MacDiarmid to Professor Bergquist. Two advertisements, which filled the final pages of Review # 33, might equally well have been included as ‘*notices*’. One was for “New Zealand Fish, a Complete Guide” by C D Paulin, A L Stewart, C D Roberts and P J McMillan, described as ‘*a checklist and illustrated identification keys to 1008 species of fish recorded from New Zealand*’ and published in 1989 by the National Museum. The other was for “Marine Reserves for New Zealand” by W J Ballantine, to be published in 1991 by The Friends of Leigh Laboratory as Leigh Laboratory Bulletin No 25, and described as ‘*a resource handbook aimed at promoting more marine reserves*’. Over the succeeding four years the ‘*notices*’ section expanded to take in NZ Marine Sciences Society Award presentations and reports from student recipients of First Overseas Conference Travel Fund awards, together with, in 1993 a report on the 35th General Meeting of the SCOR and obituaries for Brian Foster and Peter Kingett, and in 1994 and ‘95 ‘*upcoming conferences*’ announcements and notes about the JAGOFS programme and the NZJMFWR. The ‘*notices*’ section was then dropped from the Review and the students’ overseas travel reports either not included (Review # 38 and # 39) or were given their own entry in the ‘*Contents*’ (from Review # 40 onward), which is how they have been published in all subsequent issues.

“Anecdotes”, such as the 1991 conference dinner being ‘*graced*’ by the Governor-General, Dame Cath Tizard and ‘*entertained*’ by the after-dinner speech of Professor John Morton, sit alongside “local” news items recording the new Scientist-in-charge at Leigh Marine Laboratory in 1991 (Alwyn Rees having taken over from Ned Pankhurst), or the retirement of Professor Alick Kibblewhite also in 1991 (after many years as Chair of the Physics Department at Auckland University), or even the obituaries in 1992 reporting the untimely deaths, but significant marine science

legacies, of the two highly respected Auckland-based marine biologists Associate Professor Brian Foster and Mr Peter Kingett.

Support for Students

The Society's tradition of fostering the development of marine science students had become well established during the 1980s. The most tangible student support was through the provision of travel grants to reimburse students for some of the expenses incurred in attending the annual conference to present a paper. The cost to the Society of the student travel grants varied markedly from year to year, depending largely on the location of the conference. For example, sixteen \$50 grants were made in 1991 for the conference held at the University of Waikato, but only three of \$100 for the following year's conference in Wellington. By the mid 1990s student travel grants had become one the Society's three major expenditure items (alongside the Review and the FOCTF) with as many as thirty grants given and as much as \$3000 provided for student travel to the conference. For the 1999 conference held at Victoria University in Wellington, the figures were 39 grants of \$80-130 each, for a total of \$3880 of Society expenditure. During the early part of the decade the Society also made an annual contribution of around \$800 to the Royal Society's Prince and Princess of Wales Fund, which provided funding to support student travel but was open to all science disciplines. Contribution to this fund was discontinued in favour of directly supporting our marine science students.

Students stood to benefit further from the Council's decision in 1990 to establish a "First Overseas Conference Travel Fund", to enable young scientists to have the experience of presenting a paper, and contacting others in their field, at their first international conference. FOCTF, as the fund became known, was set up with an initial contribution of \$3000 from the Society and the expectation that it would receive on-going support by way of donations. Donations, mostly from NZ Oceanographic Institute, were received in first few years of the Fund's operation, but it subsequently became an accepted item of expenditure in the Society's budget. Three awards were made in the first year (1991) but one was not taken up as a consequence of the student's ill health. Tony Larson of the University of Auckland, who attended the 4th International Phycological Congress at Duke University in North Carolina, and Willem de Lange from the University of Waikato, whose first international conference was Coastal Sediments'91, held in Seattle, Washington, both provided travel reports for publication in the Review (# 34), as was required under the rules governing FOCTF. Two awards were made in 1993, to Lesley Rhodes of Cawthron Institute and to Mark Morrison of Leigh Marine Laboratory, together with a discretionary travel award from the Fund to Vivienne Cassie-Cooper, retired Auckland scientist, to enable her to attend a Marine Toxin and New Zealand Shellfish workshop, sponsored by the Royal Society of NZ and held in Wellington. Reports from all three were published in Review # 36. This Fund has enabled a considerable number of young scientists to attend their first overseas conference, make a presentation before an international audience, and report on their experience in the pages of the Society's publication (see Table 5).

The established 1980s tradition, through which NZMSS encourages quality science by giving a prize at the annual conference to the "best student paper", was maintained during the 1990s, with both oral and poster papers being eligible for the prize from

1992. In 1990 the prize was \$100, and in that year it was sponsored by the WestPac Bank. The best student paper prize in 1990 was won by Michelle McLean from the Department of Microbiology at the University of Otago, for her presentation on “The effect of temperature on the survival of poliovirus and rotavirus in cockle bed sediment”. For the first time in 1990 another prize was awarded. It was sponsored by the Department of Conservation for the best paper reporting work done primarily in an existing or proposed marine reserve. The inaugural DOC Marine Reserves Science Prize went to Ned Pankhurst and John Carragher from Leigh Marine Laboratory for a paper entitled “The dynamics of stress responses in three marine teleosts”. The Department of Conservation prize for the best paper on work done in a marine a reserve also became an annual award, usually to the value of \$300.

The New Zealand Marine Sciences Society Award

During the 1990s decade several of the Society’s Presidents had, in their own words, the *‘privilege’, ‘pleasure’, ‘happy task’* of making the presentation of the prestigious New Zealand Marine Sciences Society Award to one of New Zealand and the Society’s pre-eminent scientists for their *‘outstanding contribution to marine science’*. In 1990 it was Dr Alistair MacDiarmid’s pleasure to make the Award to Professor Patricia Bergquist for amongst other achievements, her extensive research on *‘the taxonomy and developmental biology of sponges’*. Dr MacDiarmid again presented the Award the following year when Dr Ron Heath was the recipient for his highly productive over-twenty year research career, including *‘his specialist work on tides’* and on *‘the diffusive advective balance of the sub-tropical convergence’*, as well as his administrative career with NZ Oceanographic Institute during the 1980s and as Director of the newly established DSIR Division of Marine and Freshwater Science. Photographs recording the presentation of the Award to Professor Bergquist and to Dr Heath were published in Review # 33 and # 34 respectively

After a couple of years in which there were no nominations for the Society’s most prestigious Award, Ken Grange was the President in 1994 to make the presentation to Dr Janet Grieve, who, as well as being on the Council *‘for many of the past 20 years’* is *‘widely regarded as New Zealand’s leading biological oceanographer’*. In 1995 and again in 1996 President Dr Liz Slooten made the presentation, first to Dr Vivienne Cassie-Cooper for her huge contribution to the knowledge of microalgae and phytoplankton, including her pioneering achievement of *‘the first survey of marine phytoplankton in coastal waters around New Zealand’*, and then to Chris Francis, in recognition of the fundamentally important part that mathematical and statistical analysis play in marine research, as shown by his novel approaches to fisheries modelling, such as incorporating risk estimates into *‘a simulation procedure aimed at determining optimal ways to develop new fisheries’*. A Chris Francis model incorporating *‘recapture-growth graphs’* featured on the front cover of Review # 39.

The New Zealand Marine Sciences Society Award was bestowed on two more recipients during the 1990s. In 1997, during the joint NZMSS/AMSA conference, the Award was presented to Associate Professor John Jillett for his many years of dedicated research on zooplankton. It also recognised a huge contribution to marine science through his teaching and administrative duties at the University of Otago and particularly at the Portobello Marine Laboratory. In 1999 Dr Lionel Carter received the Award for his internationally important research across a broad spectrum of

oceanography, most notably into abyssal current regimes and sedimentation processes and their links to global climate changes, and also for his significant contribution to seabed monitoring and charting around New Zealand. Both these latest recipients of the Award had also been active participants in Society activities over many years. It is unfortunate that the society appears not to have taken the opportunity to photographically record any of these Award presentations (from 1994 through to 2002), either for its own records or to use to further its objective of communicating good quality marine science.

The Changing Scene of Marine Science in the 1990s

Very soon in the 1990s it became clear that whatever it might be called, whether reorganisation, restructuring, rationalisation, realignment, retrenchment or whatever, the process of change, so evident during the 1980s, was continuing on and through into the next decade. Indeed the biggest reorganisation of the way that science research, including marine science research, operates in New Zealand was yet to occur.

As early in the new decade as 1st July 1990, the Division of Water Sciences underwent yet another name change as part of DSIR's rationalisation into ten larger sized divisions. The organisation of the five units within the newly named Marine and Freshwater Division remained unchanged, although funding constraints meant that staff lost during the year, including four biologists '*made surplus*', were not replaced.

Some of the changes taking place during this on-going, discipline-wide restructuring of New Zealand marine science offered advantages by way of rationalisation and greater efficiency, but some carried with them funding cuts and job losses.

In 1991, for example, more rational organisation of science in MAF Fisheries resulted from its restructuring into three regions – North, Central and Southern – with science leaders Andrew Hore, Phil Kirk and Laurel Tierney respectively. On the other hand changes at the National Museum, completing the '*second phase of its restructuring which is designed to bring the functions and administration ... more in line with the aims of the proposed new Museum of New Zealand*', resulted in a downsizing of marine science, particularly for curatorial work. Meanwhile in the DSIR's Marine and Freshwater Division, the Paleontology and Stratigraphy group took a 30% cut in funds from its 1990 level and saw '*another round of redundancies, with a total of 11 positions lost*'.

Reorganisation was rampant within the universities in the early 1990s. During 1991-1992 a Centre for Marine Science was established at the University of Auckland, bringing together marine research groups to form a coherent organisation '*readily identifiable by science users*' that would '*maximise the effectiveness of research collaboration*', '*provide expertise for consulting purposes*', and '*generate opportunities for graduate student research with the express purpose of training and retaining talented marine scientists in NZ*'. Not long afterwards, in December 1993, approval was given for a new School of Marine and Environmental Science to be set up at the University's Tamaki Campus. The School offered its first multidisciplinary MSc level marine science course in 1995. At the other end of the country the formation, in late 1991, of a new Department of Marine Science at the University of

Otago removed the academic role from its Marine Science and Aquaculture Research Centre, to enable it to focus on externally commissioned marine research and consultancy projects by promoting the University's *'extensive expertise and resource base in Marine Science'*.

At the same time, in the government sector the biggest reorganisation yet of marine science was taking place, through the establishment of ten new Crown Research Institutes or CRIs. Each CRI operates as a limited liability company under Crown ownership but with its own board of directors. This change was intended to give the CRIs *'more independence and greater commercial powers than the government departments that they replace'*. Only two years after the Division of Water Sciences had been restructured into the Marine and Freshwater Division, on 1st July 1992 the DSIR was disestablished, after 66 years in existence, and the NZ Oceanographic Institute became one of the five divisions of the new National Institute of Water and Atmospheric Research Ltd or NIWA. Each division (the other four being Atmospheric, Ecosystems, Environmental Data and Freshwater) would operate as separate business units, but with *'co-operative studies and constant communications amongst divisions (to) ensure that NIWA functions as an integrated whole'*. The freshwater fisheries scientists from MAF Fisheries were also transferred into NIWA. The CRI restructuring process also involved the Geology and Geophysics Division of the former DSIR which became the Institute of Geological and Nuclear Sciences Ltd or IGNS, and the Seafood Research Laboratory, which was transferred into the NZ Institute for Crop and Food Research Ltd.

After only a single year of operation NIWA was engaged in internal restructuring and name changing in 1993 to implement the recommendations in a report from a Review and Consultation Committee. This proposed a realignment of the five divisions into a corporate office, three science divisions and a support unit. The three new science divisions are defined as NIWA Ecosystems, covering all aspects of *'aquatic ecology in freshwater, estuarine and coastal environments'*, NIWA Climate responsible for all *'research and applied science on the physics of the atmosphere and of fresh waters'*, and NIWA Marine covering the *'physical, geological and biological science of the marine environment, including fisheries'*. Staff losses and gains accompanied the changes.

1993 also saw the Museum of New Zealand *'undergoing continuing and substantial restructuring'*, leading to a situation in which, according to research staff, *'the future of marine science at the Museum is unclear'*. Some clarity emerged in mid 1994 with the completion of an 82-page report, entitled "Agenda for Scholarship", that resulted from a Review of Science and Research at the Museum of New Zealand. Strong support *'on behalf of the natural sciences'* had come from both within the Museum and from outside agencies and individuals. An internal review panel was set up to ensure that *'scholarship is maintained and in-house research meets the corporate needs of the Museum'*. However Museum management felt that it was *'unlikely'* that the over 80% increase in funding recommended in the report *'will be provided in the foreseeable future'*. By contrast Cawthron Institute was seeing *'continued growth in marine related research and consulting activities'*, due in part to the value of its expertise in marine micro-algae during the major algal bloom in the summer of 1993. Cawthron's 1993 purchase of the Glen aquaculture facility had led to the employment of several new specialist scientists, with Mike Bull and Achim Janke to

work on aquaculture of flat oysters, Cameron Hay on *Undaria*, and Chris Molloy on marine fungi, as well as having six staff members undertaking research for PhDs (Allison Hayward on *Gymnodinium* phylogeny, Sean Handley on polychaete worms in oysters, Sam Buchanan on greenshell mussel larvae, Rodney Roberts on paua larvae, Natasha Berkett on paralytic shellfish poisoning, and Andrew Jeffs on flat oyster reproduction).

Perhaps as a consequence of the abolition in late 1989 of a large number of local government agencies and quangos, including Catchment Commissions and Regional Water Boards, and their replacement by fourteen Regional Councils, several Regional Councils started providing reports of their new involvement in “marine” activities for publication in the Review from 1990 onward. For example, the Bay of Plenty Regional Council established a regional monitoring network ‘*to provide scientifically defensible information on the important physical, chemical and biological characteristics*’ of the region. It was also involved in impact monitoring of discharges into Tauranga Harbour, and had projects on the Maketu Estuary and the Tauranga Harbour Management Plan. The Taranaki Regional Council continues with chemical, bacteriological and ecological monitoring of outfalls and beaches, monitors and inspects commercial aquaculture and oil exploration operations, and in 1990 conducted a ‘*survey of coastal recreational use*’ to detect changes in use over the last ten years. Five Regional Councils reported “marine” activities in 1994, increasing to seven in 1995.

The middle of the decade saw the implementation of what was perhaps the final major step in the government’s reorganisation of its “research provider” agencies. On 1st July 1995 the Fisheries Research Centre of the Ministry of Agriculture and Fisheries was merged with NIWA to establish the country’s biggest concentration of marine scientists and marine science expertise, at the Greta Point campus in Evans Bay on the shore of Wellington Harbour. The range of views prevailing on this latest restructuring were succinctly summarised by Dr Liz Slooten in her Presidential Address to the Society’s annual conference held Wellington only two months after the merger. She noted the concern felt by fisheries scientists over the uncertainty of their future; concern based on the Government’s lack of a ‘*strong commitment to maintaining a solid research capability*’, and on regular calls for ‘*substantial cuts in research funding*’ and for funding to be made ‘*fully contestable*’. However she also noted positives, such as the much larger critical mass of marine scientists working in the same agency, and the increasing opportunities for collaboration between fisheries research scientists and scientists working in the broader marine science field. There was potential for research priorities to be based ‘*more on scientific and environmental criteria as well as economic ones*’ or for the opposite to occur if ‘*industry gains greater control over what research is and isn’t done*’. Dr Slooten urged the Society to ‘*keep a close watch on developments to make sure that the advantages outweigh the disadvantages*’.

By comparison with what had gone before, the second half to the 1990s was quiet and benign as far as changes to marine science were concerned. In the educational field there was development of the “centres of excellence” concept, with the setting up of the University of Canterbury/NIWA Centre of Excellence in Aquaculture and Marine Ecology in 1997. There was also expansion of marine public education at the universities, with programmes established in the Department of Marine Sciences at

Otago in 1996 and in the School of Biological Sciences at Victoria in 1997. In government the focus of change was now on the Department of Conservation. The restructuring of DOC, which began in late 1996 and was completed in late 1997, disestablished the department's marine protection and coastal policy/planning functions from Head Office *'to give effect to the new philosophy of ... greater accountability, strengthened line management and quality conservation outputs'*. A new Head Office structure emerged with three divisions to carry out coastal marine functions – a Conservation Policy Division for policy development, an External Relations Division for issues management, and a Science and Research Division to provide science, technology and information services. Head office is supported by three new regional offices and 13 conservancies (the 12 of them with coastal marine areas being Northland, Auckland, Waikato, Bay of Plenty, East Coast/Hawkes Bay, Wanganui, Wellington, Nelson/Marlborough, Canterbury, West Coast, Otago, and Southland. The function of the three regional offices – Northern in Hamilton, Central in Wellington and Southern in Christchurch – is *'to provide advice and support to conservancies and to improve on or develop procedures'*.

In 1997 DOC was allocated additional funding, called the Marine Reserves Package, amounting to some \$440,000 a year for two years, to go towards the set-up costs of new reserves, upgrading the infrastructure of existing marine reserves, monitoring of up to four reserves, and research to define *'the critical size of marine reserves required to adequately protect biodiversity'*. Also in 1997, on 1st September, the name of the New Zealand Fishing Industry Board was changed to the New Zealand Seafood Industry Council or SeaFIC. Most of the responsibilities and duties of the Board transferred to the Council, but added emphasis in the new organisation was to be placed on working with and assisting *'emerging commercial stakeholder groups which are formed around natural associations of commercial fish species'*.

The membership of the NZMSS has always been overwhelmingly composed of marine scientists and marine educators who work in the research organisations and in the universities, together with students who are engaged in their marine studies in one or other of the universities. They have all been impacted to a greater or lesser extent by the fundamental changes that have taken place in marine science throughout the whole of the 1980s and 1990s.

The New Millennium Decade, 2000-2009 (Reviews # 43-50)

After two decades of marine science characterised by change and reorganisation, could it be that the new millennium would herald a more stable environment. A note of optimism was certainly present in the words of Dr Russ Babcock in his President's Address to the first annual conference of the 2000s, with his suggestion that *'on balance the marine sciences in New Zealand are in a healthy state'*. He detected a demand for qualified marine scientists and contended that marine science would *'be best served by a more upbeat attitude in the long-run'*.

This most recent decade of the Society's history is readily available to those wanting to delve into the details of who was doing what, when, where and how, and what was happening at all the marine science organisations and universities throughout New Zealand. The "history" can be accessed through the electronic pages of NZ Marine Sciences Review from issue # 43 through to the most recent issue, # 50 published in May 2009. All of these issues were destined primarily for publication on the NZMSS website at <http://nzmss.rsnz.org> (changing to www.nzmss.org during 2010), with just a few hard copies of each issue printed, mainly for supply to institutional libraries.

In compiling the history of this fifth decade of the Society's activities the author was mindful of the fact that, for many of us, the 2000s are not so much history as the recent past, and as such the events of 2000-2009 may be well within the reader's own memory span.

2000 and 2001

The first Review of the decade was not published until November 2002, but in the editor's note from Trevor Willis (who had been persuaded to take over the task after his Leigh Laboratory colleague Justine Saunders had edited two issues), he pointed out that it covered the two years 2000 and 2001, it started the practice of including the URL's of institutional webpages in the *'research news'* section, and it *'heralded the return of the practice of publishing the abstracts from the previous year's NZMSS Conference'*. Review # 43 thus contained two sets of AGM Minutes, two Financial Reports, and two sections on the annual conference (one at Hamilton in 2000 and one at Townsville in 2001) each including the President's Address and the abstracts of both oral and poster papers. Only the University of Auckland, however, went to the effort of dividing its *'research news'* into 2000 and 2001 sections. Review # 43 was notable also for the extraordinarily comprehensive breakdown provided in its *'Contents'*, with for example thirteen separate groups reporting under the NIWA heading, eight separate departments at the University of Auckland, and even five different sectors at the Seafood Industry Council. As well as the address from Russ Babcock in 2000, Review # 43 also contained the keynote address from the Honorable Peter Hodgson (Minister of Research Science and Technology, Minister of Fisheries, and Minister of Crown Research Institutes), who was *'happy to be in front of scientists because you're committed to the advancement of knowledge and ideas, and I'm part of a Government that shares that enthusiasm'*. In the address from the following year's President Dan McClary, given at the Townsville conference, he also felt confident *'in saying that the future for marine science looks bright'*.

One highly significant addition to the contents of Review # 43 was the inclusion for the first time of *'research news'* from the Auckland University of Technology, which

in 2000 had been the first polytechnic in the country to become a university. AUT had established an Earth and Ocean Sciences Research Centre, and newly appointed faculty member Dr Andrea Alfaro was in the process of *'expanding teaching and research in Marine Ecology'*. Consultancy companies were increasingly active in marine contracts with Akroyd Walsh Ltd and Kingett Mitchell Ltd involved in research projects for the Ministry of Fisheries and local government bodies. NIWA's Nelson office was also getting *'close to a range of clients'* through its move into new purpose-built premises beside Nelson Haven. At Leigh Marine Laboratory Professor John Montgomery's appointment as Chair of Marine Science and Director of the laboratory in October 2001, was accompanied by the restructuring of the Marine Science Programme and the acquisition of a new 14.5 m research vessel, the "Hawere". A new entry in Review # 43 was a report from the New Zealand Journal of Marine and Freshwater Research (NZJMFR), which *'as a major outlet for marine science in New Zealand, continues to have a strong relationship with members of the NZMSS'*. The journal's scientific editor Sandra Stanislawek, reported the resurrection of the Editorial Advisory Board (discontinued 10 years earlier under DSIR) now that the journal is published by the Royal Society. The Board would, amongst other tasks, *'consider the future development and improvement of the journal'*.

2002

After his "double" issue Trevor Willis handed on the Review Editor position to Amy Robinson of Waikato University to collate the next two editions in 2003 and 2004. Both of them contained the standard mix of Society news, conference report and abstracts, research news, and recent publications. Review # 44, covering the year 2002 included Dan McClary's second President's Address, this time to the NZMSS conference in Nelson, in which he questioned "value for money" aspects of the science funding process. He focussed on FORST's Public Good Science Fund investment in marine-related projects *'of about \$250M in a decade ... for a country with the 5th largest maritime exclusive economic zone in the world'*. Is it enough? Are we getting value for money? Where is the public good in confidentiality? He challenged the scientific community to have its say on MORST's expressed wish to see a different approach to the funding of public good science and technology that would *'put more emphasis on "negotiation" rather than "competition" for funds'*.

2002 was a year of fast growth in the Earth and Ocean Sciences Research Institute at Auckland University of Technology (AUT), with staff increases, including the appointment of Senior Research Fellow Dr Steve O'Shea and first Post Doctoral Research Fellow Dr Kevin Tilbrook, a large research programme lead by Dr Andrea Alfaro on the ecology of estuaries in Northland, and Professor John Buckridge's extensive work on barnacle systematics. AUT also set up a new Aquaculture Major course (the first in the country) within its Bachelor of Applied Science degree, raising interest at both undergraduate and postgraduate level in aquaculture. Scientists from Geological and Nuclear Sciences (GNS) and the National Institute for Water and Atmosphere (NIWA) have been commissioned to provide the major technical input for a ten-year project (managed by Land Information New Zealand) for the United Nations Convention on the Law of the Sea (UNCLOS). The project collects and interprets data on the sea floor and the rocks beneath, and will form the basis of a New Zealand submission to the UN defining the extent of this country's continental shelf. Massey University's Geography Department (in the Review for the first time in many years) reported having three staff working on marine-related projects. The New

Zealand Journal of Marine and Freshwater Research (NZJMFR) reported that ‘2002 was a very good year’, with a very high number of submissions, all issues of Volume 36 published on time, and publication times reduced. A strategic plan developed by the journal’s Editorial Advisory Board included using the byline of “international journal of aquatic science” for NZJMFR, to emphasize that although specialising in ‘aquatic science and fisheries of the Southern Hemisphere, the material published is of worldwide relevance’.

The abstracts of all 155 papers presented at the 2002 NZMSS conference were as usual published in the Review. The abstracts occupied 62 (43%) of the total of 144 pages in Review # 44, the ‘research news’ taking up 40 pages (28%) and the ‘recent publications’ filling 21 pages (15%). The 2002 AGM discussed the perennial issue of the Society being involved in making submissions. It was noted that the Society was on occasions inundated with potential submissions, the responsibility generally fell on just a few people, and opportunities were sometimes lost, as had been the case with a Subantarctic Marine Reserve proposal. A motion was passed that the Society put in a strong submission opposing the Royal Society’s imposition of a \$50 page charge for publication in NZJMFR, and stating that ‘any page charges are considered inappropriate’. The AGM also heard that NZMSS’s nomination of Dr John Jillett to the Ocean Policies Committee had not been accepted.

Remarkably, in a Society dedicated to communication, the awarding of the New Zealand Marine Sciences Society Award in each of the first three years of the 2000s went un-recorded in the Review and was equally un-noted in the Minutes of the AGMs for 2000, 2001 and 2002. The Society’s highly prestigious Award was nevertheless presented to three scientists, who had each played very significant roles in their chosen fields of marine science and also participated fully in the activities of the Society. Dr Bob Creese, a highly knowledgeable and productive coastal ecologist and former Scientist-in-charge at Leigh Marine Laboratory, was the 2000 NZMSS Award recipient. Dr Bruce Hayward, recipient of the Award in 2001, is New Zealand’s leading micropaleontologist, expert on Foraminifera and former Curator of Invertebrates at the Auckland Museum. Dr Bill Ballantine’s career in marine science at Auckland and particularly at the Leigh Laboratory is as broad as it is long, but he is best known and world renowned for his work on establishing the first marine reserve in New Zealand at Goat Island. Dr Ballantine received the Award in 2002. The moment of the presentation was recorded, and subsequently published in Review # 45, when Associate Professor David Schiel received the Award from Bob Hickman, NZMSS Treasurer standing in for President Mark Gibbs, during the conference dinner at the 2003 annual conference in Auckland. As one of New Zealand’s most productive and effective marine scientists, Dr Schiel has made an outstanding contribution across research, teaching and student supervision. Dr Schiel, a former President of the Society, became the 16th recipient of the Award. There have been four more of the prestigious Awards presented during the decade, all of them to scientists who are pre-eminent in their own field of marine science. Dr Denis Gordon, world authority on Bryozoa, Dr Wendy Nelson, New Zealand’s foremost authority on algal taxonomy, Dr Malcolm Francis, biogeographer, shark specialist, diver and photographer, and Dr Pamela Mace, fisheries scientist and manager and currently Chief Scientist at the Ministry of Fisheries, are the four most recent recipients, having been presented with the Award in 2005, 2007, 2008 and 2009 respectively.

2003

In 2003, as well as honouring its own scientist through the NZMSS Award, NZMSS also enjoyed the reflected glory of having three of its members, Drs Janet Bradford-Grieve, Lionel Carter and Bruce Hayward, elected as new Fellows of the Royal Society of New Zealand. Raising the international profile of New Zealand marine science was also behind the appointment in 2003 of eight international research scientists (all of whom had had some involvement with New Zealand) to join the eight New Zealand members on the Editorial Advisory Board of NZJMFR.

The 2003 annual conference was the first time that Auckland University of Technology joined with the University of Auckland to co-host the meeting, which was held in conjunction with the Australian Society for Phycology and Aquatic Biology (ASPAB). This was the second successful collaboration between NZMSS and ASPAB, following the one in Dunedin in 1998. Keynote addresses to the conference covered Antarctic benthic ecology from Dr Neil Andrew of NIWA, Falkland Island seaweeds from Dr Margaret Clayton of Monash University, and fish as 'autonomous underwater vehicles' by Professor John Montgomery of Auckland University, but the abstracts of the papers and posters, also published in Review # 45, show the usual broad range of topics.

There was still strong interest in aquaculture at this time, with AUT continuing to expand in this area through the addition to the staff of its Earth and Oceanic Sciences Research Institute of Dr Lindsey Zemke-White to work on seaweed ecology and aquaculture. Meanwhile Cawthron Institute had established an '*aquaculture group*', led by Dr Henry Kaspar, with eight scientists supported by seven technicians and two students, to work alongside its '*marine biosecurity research group*', led by Mike Taylor with five scientists and four technicians, and a '*coastal and estuarine group*', led by Barry Robertson, with thirteen staff. In July 2003 DOC's continuing restructuring resulted in a new '*Marine Conservation Unit*' at its Wellington head office, under Unit Manager Felicity Wong, its purpose being '*to take national responsibility to improve the Department's marine conservation delivery systems*'. The unit's work would focus on marine reserves/marine protected areas, coastal aspects of the Resource Management Act, marine protected species, marine ecosystems/fisheries, and the Conservation Services Programme (for fisheries). Environment Canterbury created a new position of Coastal Water Quality Scientist to oversee water quality monitoring, consents for discharges, spillages, coastal habitat mapping and aquaculture management area proposals. The Bruce Hayward, Hugh Grenfell, Ashwaq Sabaa consulting company Geomarine Research moved from Auckland University to its own premises close to the Tamaki Campus in 2003. At the same time Kingett Mitchell Ltd was expanding its expertise through the addition to its staff of Dr Mike Stuart with experience in management of *Undaria*, and Dr Nick Corlis, a marine geochemist with GIS skills. Trophia Ltd, an independent research self-employment consultancy, has more than half a dozen self-employed staff, under Managing Director Terese Kendrick who are involved in contract research for the Ministry of Fisheries and other fishing industry stakeholders. People movements in 2003 included the arrival of Dr Pamela Mace as a new member of the stock assessment group of the Ministry of Fisheries head office Science Team, the appointment of Dr Carol Diebel as Director of Natural Environment/Papatuanuku at the Museum of New Zealand, and the retirement of Dr Bob Wear '*after 40 years of service to marine science and the University and with a backlog of data to work up*

for publication over the next few years'. The 2003 AGM heard from Treasurer Bob Hickman that the Society had *'large reserves of funds due to a membership drive and the profit from last year's conference'*, from Membership Secretary Claire Barnaby that there were 383 active members, *'an increase of 55 members from the previous year (but) 174 members still have outstanding subscriptions'*, and from President Mark Gibbs that few submissions from the Society have been prepared recently *'due to the diverse nature of our group (meaning) that it is rare that the Society can represent everybody's viewpoint'*. Discussion of the submissions issue led to the suggestion to set up workgroups with designated leaders for specific topics, in order to achieve timely development of submissions. Two requiring urgent attention were identified as a submission to MORST on increasing the overall funding for science, and one to the Royal Society on increasing the funds allocated to marine science. A proposal from Professor Terry Healy to establish an NZMSS Fellowship was discussed in relation to the existing NZMSS Award, with the AGM deciding the proposal needed to be canvassed throughout the whole membership. Following the election of the Council six workgroup topics were chosen (oceans policy, science funding, conservation, fisheries, resource management, aquaculture) with leaders identified for five of them.

2004

2004 appears from Review # 46 to have been a "quiet" year in marine science, typified perhaps by the remarks of President Mark Gibbs in his report to the AGM, in which he noted *'little activity over the last year on issues requiring submissions from the Society'* as well as *'little activity for working groups set up last year'*. Indeed it was suggested at the AGM that the incoming Council *'try to get the general membership motivated again to combat the lethargy apparent in the present'*. However, as the President pointed out to the meeting, the high level of support for and attendance at the annual conference was a good indication that the Society was still successfully achieving its objectives. Even within the Department of Conservation the *'major divisional restructuring'* had quietened down, and DOC Science Publishing, under Jaap Jasperse, had survived the changes with only a name change, to now be known as Science and Technical Publishing, as part of DOC's new Research, Development and Improvement Division. Environment Canterbury considered itself fortunate in 2004 to have Professor Bob Kirk, recently retired from the position of Pro-Vice Chancellor of Research at the University of Canterbury, elected as an Environment Canterbury Councillor. Dr Pamela Mace was appointed Chief Scientist at the Ministry of Fisheries, replacing Dr John Annala who left to take up the position of Chief Scientific Officer at the Gulf of Maine Research Institute in Portland, USA. Ensuring that the year was not entirely without some significant change, during 2004 the Museum of New Zealand's Department of Natural Environment was restructured into the *'three discipline-based teams'* of Botany, Invertebrates and Vertebrates, with team leaders Pat Brownsey, Rick Webber and Sandy Bartle respectively. The new structure will provide *'greater efficiency particularly during the next year as a new database is installed and commissioned'*. Chris Paulin took on the new role of Special Projects Officer to work with natural environment staff and Te Papa IT staff *'to facilitate the process of interpreting collection information for the wider web-based audience'*. In late 2004 the Marine Biosecurity section of Ministry of Fisheries was moved into the Ministry of Agriculture and Forestry (MAF) to become part of the greater MAF Biosecurity programme. In 2004 the Portobello Marine Laboratory celebrated its centenary. Several events commemorated the event including a one-day

symposium on Southern Marine Science in July, immediately preceding the Society's annual conference, as well as a visit and lecture series from Dr Sylvia Earle '*deep-sea explorer and aquanaut*' from the USA. The World Wildlife Fund (WWF) provided a report on its activities for the first time in Review # 46. The WWF marine programme has expanded in the areas of fisheries and marine ecosystems, with Allison Arnold co-ordinating New Zealand marine ecoregion work, Caren Schroder continuing work on marine threatened species, Nathan Walker on fisheries and Marine Stewardship Council issues, Wendy Barry developing a marine education programme, and Chris Howell, as Conservation Director, providing overall leadership, as well as focussing on whale conservation and the Convention on Biological Diversity. Victoria University launched its new marine science research centre, called the Centre for Marine Environmental and Economic Research or CMEER, with the aim of '*delivering multi-disciplinary research in the fields of marine science, economics, public policy and law*' and the expectation that it will involve staff from a number of different schools and faculties within the university.

2005

As far as the Society is concerned, **2005** is probably best remembered as the year in which it held its biggest and first truly international conference. Bringing together NZ Marine Sciences Society, the 4th International Marine Bioinvasions meeting, and the US-NZ MARGINS group of scientists for a joint conference was a major undertaking for the Society, but proved to be a highly successful one. It had over 350 registrations including over 100 delegates from overseas, around 200 oral presentations and over 100 posters, three keynote addresses and two ministerial opening addresses, and included seminars on toothfish, Oceans 20/20, and marine energy. Inclusion of the abstracts of all the oral and poster presentations from the conference, which had the theme of "Human impacts in the marine environment", provided Lesley McLeod with the distinction of having, as her second editorial effort for the Society, compiled NZMSS's largest publication yet. The 269 pages of Review # 47 contained 122 pages of conference abstracts. Another innovation from the Society during the year was the introduction of a system for regular communication from the Council to membership, in the form of a short "newsletter" from the President sent out to members, via its listserver and posted on the website, following each Council meeting. In an informal style the newsletter keeps the members informed of what their Council is doing and offers the membership the option to '*contact your Council if you want to know more*'.

Auckland Regional Council has in 2005 '*state-of-the-environment monitoring*' programmes that have been running for between 7 and 18 years. They provide a valuable pool of information that can be used to examine long-term coastal environment quality trends in '*storm water contaminants, pesticides, suspended sediments, nutrients and faecal contaminants*'. Not to be found wanting as far as facilities are concerned, the Auckland University of Technology Division of Applied Sciences was having built '*a 40 ft research vessel powered by twin 425 mph diesel engines connected to jets*' to help its Head of Division, Associate Professor Paul Henriques, in his research. It would be available to colleagues Drs Andrea Alfaro and Lindsey Zemke-White and to the Earth and Ocean Sciences Research Institute for their research and teaching work, and also for charter to other organisations. The marine research involvement of Geological and Nuclear Sciences Ltd (GNS) encompasses Antarctic climate research, deepwater offshore basin studies, plate boundary investigations, gas hydrates and regional exploration of the ocean floor.

Industrial Research Ltd (IRL) has a FORST-funded programme on seaweed glycotherapeutics aimed at developing new biologically-active products from macroalgae and, in collaboration with NIWA, developing seaweed aquaculture. A Macroalgal Workshop organised by IRL in November 2005 was attended by over 30 people involved in seaweed research and development. NHNZ continues to be one of the world's largest and most respected producers of factual television, *'creating more than 60 hours of innovative programming for audiences in more than 200 countries around the world'*.

June 2005 marked a significant watershed in the funding arrangements for marine research, when FORST announced funding for long-term (12 years) Outcome Based Investment (OBI) programmes. NIWA's Christchurch-based Marine Systems and Aquaculture Group and its Marine Biosecurity and Biodiversity Group both secured 12-year funding for OBI programmes on "Ecosystem-based management of new Zealand's coastal and oceanic waters" and on "Marine biodiversity and biosecurity". NIWA's biosecurity expertise was also called into play to assist Biosecurity NZ in its response to the discovery of the invasive sea squirt *Styela clava* in Viaduct Harbour Auckland in August 2005. In its first year of operation the Centre for Marine Environmental and Economic Research at Victoria University, under its Director Dr Jonathan Gardner, was building foundations for pure and applied research in areas such as *'aquaculture, fisheries, environmental impact assessment, coastal protection, biodiversity and conservation'*. The Society's 2005 AGM was convened at lunchtime mid way through the annual conference in what was a somewhat successful attempt to get greater attendance of members - 33 members attended. Discussion was hampered by lack of an accurate financial report on which to base proposals for potential uses for the funds surplus to the Society's immediate needs. A publicity poster to stimulate interest in the Society from students was endorsed by the AGM, as was the need for long-term planning of conference venues, especially if joint meetings with AMSA are contemplated. Four student representatives were elected to Council along with the other officers, and the whole AGM was completed in a little over an hour. NZJMFR acquired its own dedicated Scientific Editor for the first time in 2005, in the person of Katrin Berkenbusch, after the journal had previously been only part of the editor's responsibilities.

2006

In 2006 the Society's annual conference returned to Nelson, and to the Rutherford Hotel, and under the appropriate theme of "Marine sciences at the centre of New Zealand". Successful organisation of the conference was again, just four years after it utilised the same venue, a combined effort from staff of NIWA, Cawthron Institute and Nelson-Marlborough Institute of Technology. In his President's Report to the conference Bob Hickman highlighted the achievements of the Society's Council during 2005-2006 in *'pursuing some of the things that we had left undone'* in 2004-2005. These included *'improving communication'* through monthly Council meetings (actually conference calls) and two monthly Newsletters via the list-server, making submissions *'on issues ... having important marine science implications'*, and making nominations *'to bodies that will benefit from some marine science expertise'*. Future-planning for the annual conferences and financial planning of options for the Society's *'over \$40,000 of funds currently earning interest'*, had also been repeatedly on the Council's agenda, and would be raised at the 2006 Society AGM. Following the usual reports from President, Treasurer and Membership Secretary, the AGM did

get to hear the Council's proposed three options for the use of accumulated funds, which were a lecture circuit from the NZMSS Award recipient, a student research grant, or the default option of retaining and building the reserve funds to ensure discretionary spending can be maintained in the future. The AGM opted for all three – to retain a \$25,000 buffer and use the remainder to fund both the lecture tour and student research grant. A schedule of NZMSS conference venues was determined for 2007 through to the 50th jubilee meeting in 2010.

A significant development on the marine science consultancy scene occurred in 2006 when Kingett Mitchell Ltd merged with Golder Associates (New Zealand) Ltd, after having had a long-standing relationship in providing complementary services to clients. The combined business employs more than 110 staff and has offices in Takapuna, Manukau, Tauranga, Nelson, Christchurch and Dunedin. The merger is intended to '*strengthen the resources, capabilities and reach ... available to help clients achieve their goals*'. In 2006 the Coastal-Marine Research Group of the Institute of Natural Resources at Massey University's Albany Campus had three PhD, two MSc and one Postgraduate Diploma students all studying dolphins, as well as one doing an MSc on whales. There were also marine mammal research projects being undertaken in the Institute of Veterinary, Animal and Biomedical Services at Massey University's Palmerston North Campus. The Ministry of Fisheries currently has a '*dynamic*' team of sixteen full-time scientists and three part-time contractors, whose responsibilities include research planning and quality assurance; coordination of stock assessment, aquatic environment and biodiversity research working groups; scientific advice to the Ministry; and '*administering and providing quality assurance for an annual research budget of more than \$20,000,000*'. Victoria University's Coastal Ecology Laboratory at Island Bay received approval in late 2006 to '*completely rebuild its facilities to accommodate recent growth in marine biology and coastal ecology research programmes*'. There was also approval for a new Master of Marine Conservation programme, the first of its kind in the country, aimed at preparing graduates '*for work in the marine conservation industry*'.

2007

If colourful goes along with upbeat then it was not before time that Review, with its byline of '*a review of marine research carried out in New Zealand during 2007*', finally became "colourful" to match the "upbeat" feeling pervading marine science in the 2000s. Full colour had made it onto the front cover of Review # 47, the second issue edited by Lesley McLeod, and the following one in **2007** from Lucy Jack, but it was not until Review # 49, edited by Natalie Robinson, that colour images started to be sprinkled, albeit frugally, amongst its content. These first images showed the bronze colouration of the NZMSS Award both on its plinth and in the hands of its 2007 recipient Dr Wendy Nelson, as well as snapshots of the five keynote presentation speakers at the 2007 NZMSS conference on the theme of "Impacts of climate change on marine systems", and even in the '*research news*' from the New Zealand Rock Lobster Industry Council, in the form of a map of the lobster fishery management areas. In her '*welcome address*' to the 2007 conference at Waikato University, President Dr Abby Smith noted the timeliness and importance of the theme, but wondered '*whether we are the only people who know how important the ocean is*'. She considered that New Zealand, '*perched here on the sub-tropical convergence*', must be especially well placed to investigate effects of climate change in a southern temperate region. Dr Smith saw a critical role for marine scientists to

play in filling knowledge gaps, in getting involved in policy-making, and in informing and educating the public and the government. The five eminent keynote speakers approached the conference theme from different perspectives of climate change implications - for the NZ marine environment (Dr Jim Renwick), for the number of species (Dr Dennis Gordon), for rocky reef communities (Professor David Schiel), for soft sediment ecosystems (Dr Simon Thrush), and for data collection and interpretation (Associate Professor Christopher DeFreitas). Abstracts of the keynote addresses were followed in Review # 49 by 55 pages of abstracts of the oral and poster presentations.

Auckland University of Technology continued to expand its marine research base in 2007 with new staff in the School of Applied Sciences, and *'two new coastal vessels, two new vehicles, an ROV (to 100 metres)'*, field sampling equipment and microscopes purchased by the Earth and Ocean Sciences Research Institute. For most of the rest of the marine research organisations reporting their activities in Review # 49, 2007 appears to have been predominantly a year of "business as usual", but with presumably the usual level of staff comings and goings and students starting and finishing their studies. By way of contrast, the Minutes of the 2007 AGM show that the Society, or at least the Society's Council, had a busy year. Abby Smith's President's report to the AGM indicated plenty of activity on *'communication'* through monthly Council meetings, bimonthly newsletters, on the website and listserver, and at the conference; on *'encouraging and assisting'* by means of the FOCTF awards, the student research grant, and the NZMSS Award; on *'raising the profile'* through the public lectures of Dr Dennis Gordon and the publication of the Review; and on *'advocacy and submissions'* through letters to Ministers, the Royal Society, and the Marsden Fund Chair, and submissions on Biosecurity Strategy, blue cod fishery closures, and protection of Hector's dolphins. The Treasurer's report from Andrea Alfaro and Bob Hickman showed that although expenditure exceeded income by \$7,683, largely as a consequence of providing extra support to students as directed by the previous AGM, there was still an end of year balance of funds of just over \$50,000. General discussion at the AGM ranged across the upcoming joint conference with AMSA in Christchurch in 2008, a proposed annual budget and associated financial planning for 2007-2008, the possible need to set aside funds to support student attendance at the subsequent joint conference with AMSA which would be in Australia, and the need for more input for an NZMSS submission on classification and protection standards for Marine Protected Areas. President Abby Smith summarised the *'State of the Society'* as being in fine shape – *'there's money in the bank, good people on board, good work being done, and exciting plans for the future'*.

2008

In 2008 Abby Smith, in her second and final term as President, was able to report in essentially the same vein on the same four areas of activity that had exercised the Council in 2007 – the award recipients and the public lectures differed, the Review was # 49 instead of # 48, and there was a longer list of advocacy and submission activities, but otherwise it was a case of (in Dr Smith's own words) *'we did all that'* again. The AGM spent time discussing aspects of the financial report including the large year to year variance in items such as the conference profit and subscriptions. The need for *'some concensus'* (sic) on data publishing and data retrieval in New Zealand was also discussed, as was what more the Society might do to prevent the

Royal Society's proposed amalgamation of NZJMF and other science journals into one all-encompassing New Zealand science research journal.

An essentially similar set of colour images to those that graced the pages of the previous Review, also appeared in Review # 50 (published in May 2009 and reviewing research carried out during 2008), when Dr Malcolm Francis was the NZMSS Award recipient, when there were nine keynote speakers, and when the conference had the theme of "Human impacts and functioning ecosystems". A couple of extra photos were also included in this issue, in an article describing Bob Hickman's retirement from NIWA after '*40 years of looking into aquaculture*'. Not only did this second issue of the Review edited by Natalie Robinson have the distinction of being the 50th and the most colourful, but it also contained the biggest '*Abstracts*' section (actually three sections – keynote, oral and poster) amounting to 135 pages and, with a total of 343 pages, this was by far the largest document published by the New Zealand Marine Sciences Society during its fifty-year history.

The 2008 joint NZMSS/AMSA conference, held at Canterbury University in July, was the largest annual conference yet (apart from the international meeting hosted in 2005), with over 350 delegates, 239 speakers and 70 posters. Numerous prizes, together with travel grants for each of them, were a measure of the support provided by NZMSS, AMSA, and several commercial sponsors to the 83 students giving talks and the 45 presenting posters. Keynote presentations in the plenary sessions of the conference covered the diverse range of human:ecological impact situations as seen through the experienced eyes of some of Australasia's leading environmental scientists, namely Tony Underwood, Andrew Lohrer, David Schiel, Graeme Inglis, Craig Stevens, Wendy Nelson, Stephen Wing and Winston Ponder. The final keynote address from Philip Ross, the 2007 NZMSS Student Research Grant recipient, described his use of DNA fingerprinting to investigate one particular "ecological impact situation", namely larval dispersal of the cockle *Austrovenus stutchburyi* between harbours and estuaries across northern and southern, and eastern and western coasts of the North Island.

As the production quality and presentation of the Review has improved, particularly over the most recent five or six issues the information contained in the '*research news*' section has become more tightly focussed on the research topics, projects and results of the individual staff and students at the various organisations. Examination of '*research news*' together with '*recent publications*' provides an extremely detailed summary of what research is being undertaken and what results are being achieved in the various disciplines and topics of marine science in New Zealand. The focussing on individuals has been at the expense of the more general and anecdotal information. This has happened to the extent that in Review # 50 one of the few items that might be deemed "general interest" or "anecdotal" is the mention of the construction, during 2008, of the new Victoria University Coastal Ecology Laboratory (VUCEL) for the School of Biological Sciences, on the site of the former Island Bay Marine Laboratory.

2009

2009, the final year of the decade, has yet to be reviewed by the NZMSS, which at the time of writing had still to find a volunteer to undertake the '*thankless*', but modestly rewarded, task of Review Editor for 2010. In the meantime several issues of the bi-

monthly “NZMSS Newsletter” from the President, Dr Megan Stewart, have reported on various items of Society activity in 2009.

- *Nearly 300 scientists attended the joint conference of the New Zealand Marine Sciences and Meteorological Societies in September. The Honourable Dr Nick Smith, Minister for both Climate Change and Environment, opened the conference with a review of the issues and challenges climate change presents to New Zealanders and the government. There were over 220 presentations, during parallel sessions across the three day conference. As usual student presentations were of a high standard and judging presentations was a difficult task.*
- *The 2009 NZMSS Award for research excellence was presented to Dr Pamela Mace, Chief Scientist at MFISH. Dr Bob Hickman received a special award and life-time membership of NZMSS in recognition of his substantial contribution to NZMSS and marine science in New Zealand.*
- *Thanks to Natalie Robinson for organising and editing the last two Reviews. Natalie has recently resigned from this role and we are looking for a new editor. There is a modest honorarium associated with this role.*
- *A submission was made on the Initial Position Paper for the introduction of *Macrocyctis pyrifera* FMA 3 and 4 into the QMS.*
- *“New Zealand Coastal Marine Invertebrates” volume 1, edited by Steve Cook has finally appeared, published by Canterbury University Press. The first volume in one of the largest and most comprehensive guides to New Zealand marine invertebrates, this volume covers Porifera (sponges), Cnidaria (anemones, corals, jellyfish), Ctenophora (sea gooseberries), Platyhelminthes (flatworms), Nemertea (ribbon worms), and Mollusca (snails, slugs, mussels and their kin, octopuses). Each species is illustrated by an excellent photo or figure. A project that began in 1990 has resulted in a book that well worth the wait!*
- *2008-2009 financial statement and auditors report were emailed out to the mailing list on the 15th December and 20 votes for accepting them were received and 0 against. 15 votes were required for a quorum so the motion was carried. Many thanks go to Chris Cornelisen and Alison MacDiarmid for their sterling work in sorting out the accounts.*
- *A new website for the Society is under development and should be completed in April. The new address is www.nzmss.org. The new website will also allow members to check on their membership status and pay for their membership renewal online.*
- *Planning is already well underway for the 2010 conference. 2010 marks the 50th anniversary of the Society, so this conference promises to be a really special event to commemorate marine science past, present and future. A date of 7-9 July has been set, so make a note and spread the word among your colleagues. It would be great to see as many past members there as possible, including those that have now left our shores.*

In conclusion

How we undertake our marine science, how we pay for our marine science, and what we expect from our marine science, have all changed immeasurably over the past fifty

years. What has not changed is the accomplishment of our researchers, the dedication of our educators, the skill of our communicators, and the innovation of our students. Together these have maintained the quantity and the quality of New Zealand marine science throughout the past, or should that be the first, fifty years. The New Zealand Marine Sciences Society through its members has been involved and integral to the output of marine science achieved in each and every year.

Will the person who takes on this history-relating task in another 50 years time be able to communicate, in whatever way is the text or lingua franca of the time, the same message?

“Histree ov the Nu Zland Mreen Sinz Sositee, 2010-2060 – a histree ov kwoltee”.

Acknowledgements

The author acknowledges that any factual errors or misinterpretations concerning the events or people’s involvement in those events, as recorded in this history, are the author’s responsibility, rather than the responsibility of the New Zealand Marine Sciences Society or its Council, except where the description of such events or involvement are quoted directly from items in the Society’s Newsletters or Reviews.

An illustrated history - fifty years of NZMSS in thirty-nine pictorial images [Plates I-XIII]

The illustrations used on the covers of the NZMSS Newsletter and Review throw a spotlight on the marine science issues of the day as they have changed between the years and across the decades.

Until Newsletter # 12 in 1969, the same cover illustration, of an albatross soaring just above the waves, was reflective of the 1960s widespread search for knowledge of New Zealand’s marine resources above and below the surface of the oceans.

During the 1970s marine research was focussed on moving forward on understanding biological and physical resources (fish, lobsters, oil, whales, krill) including those whose value had yet to be determined (krill, marine reserves), with only a brief look back to “HMS Challenger”.

During the 1980s a more commercial focus was apparent (sail power, agar from seaweed, deep sea resources, news media interest) but not forgetting the need for continuing ecological study and quality research facilities.

The 1990s covers reveal success (marine reserves), problems (toxic algae), exploration (ocean sampling, bathymetry), problem solving (modelling), and of course the continuing baseline studies of marine biology.

The Review cover images for the 2000s range from the Antarctic to Doubtful Sound to Muriwai Beach, from seaweed to molluscs to crustaceans to fish, from humans to alien species impacting on our marine environment – providing illustration of the Society's diversity of interest, and its members on-going involvement in expanding knowledge of New Zealand marine science.

Plate I. NZMSS conception (at the 9th New Zealand Science Congress) and delivery (of Newsletter # 1 and # 2).

Plate II. Newsletter #s 3-6

Plate III. Newsletter #s 7-10

Plate IV. Newsletter #s 11-14

Plate V. Newsletter #s 15-18

Plate VI. Newsletter #s 19-22

Plate VII. Newsletter #s 23-26

Plate VIII. Newsletter #s 27-30

Plate IX. Newsletter #s 31-32, Review #s 33-34

Plate X. Review #s 35-38

Plate XI. Review #s 39-42

Plate XII. Review #s 43-46

Plate XIII. Review #s 47-50

**Table 1. New Zealand Marine Sciences Society-
Annual Conferences**

Year	Conference Location	Venue / Host	Held in conjunction with ...
1960	16th May, Wellington	<i>(first gathering of interested people at Victoria University)</i>	9th New Zealand Science Congress
1961	18th May, Wellington	<i>(inaugural meeting)</i>	
1962	16-17th August, Christchurch	Victoria University of Wellington	
1963	29-30th August, Wellington	University of Canterbury	10th New Zealand Science Congress
1964	<i>(annual meeting delayed to coincide with next NZ Science Congress)</i>	Victoria University of Wellington	
1965		University of Auckland	11th New Zealand Science Congress
1966	4-7th February, Kaikoura	Edward Percival Marine Laboratory	
	22-24th August, Wellington	Victoria University of Wellington	
1967	10-12th February, Leigh	Leigh Marine Research Laboratory	
	29-31st August, Wellington	NZ Oceanographic Institute	
1968	20-23rd January, Kaikoura	Edward Percival Marine Laboratory	
	20-22nd August, Wellington	Marine Department Fisheries Laboratories	
1969	19-21st August, Wellington	Dominion Museum	
1970	7-9th February, Portobello	Portobello Marine Biological Station	
	19-21st August, Wellington	Victoria University of Wellington	
1971	12-14th February, Leigh	Leigh Marine Research Laboratory	<i>(held at Thorndon Bowling Club)</i>
	18-20th August, Wellington	NZ Oceanographic Institute	
1972	16-18th August, Christchurch	University of Canterbury	<i>(held at the National Museum)</i>
1973	15-17th August, Wellington	Fisheries Research Division, MAF	
1974	11-13th February, Portobello	Portobello Marine Biological Station	
	19-22nd August, Wellington	National Museum	
1975	27-30th August, Nelson	<i>(held at Nelson Boys College)</i>	New Zealand Ecological Society
1976	25-27th August, Wellington	Victoria University of Wellington	
1977	22-24th August, Christchurch	University of Canterbury	
1978	8-11th May, Dunedin	University of Otago	New Zealand Limnological Society
1979	18-21st January, Tutukaka		Australian Marine Sciences Association
	20-22nd August, Wellington	National Museum	
1980	26-28th August, Wellington	Victoria University of Wellington	
1981	24-26th August, Mount Maunganui	Bay of Plenty Harbour Board	
1982	30th August-2nd September, Wellington	Fisheries Research Division, MAF	<i>(held at Greta Point Fisheries Research Centre)</i>

1983	22-24th August, Auckland	University of Auckland <i>(held at Nelson College)</i>	New Zealand Ecological Society
1984	22-24th August, Nelson	University of Canterbury	
1985	26-28th August, Christchurch	Victoria University of Wellington	
1986	27-29th August, Wellington	University of Otago	University of Otago Marine Science Symposium
1987	25-28th August, Dunedin	University of Auckland	New Zealand Ocean Waves Society
1988	24-26th August, Auckland	National Museum	
1989	23-25th August, Wellington	Water Quality Centre, University of Waikato	New Zealand Ocean Waves Society
1990	22-24th August, Hamilton	National Museum	
1991	28-30th August, Wellington	University of Otago	
1992	26-28th August, Dunedin	<i>(held at the Quality Inn)</i>	MESA NZ* / NZ Aquaculture Seminar
1993	25-28th August, Nelson	University of Waikato	New Zealand Limnological Society
1994	1-3rd September, Hamilton	Victoria University of Wellington	
1995	30th August-1st September, Wellington	University of Canterbury	
1996	28-30th August, Christchurch	University of Auckland	Australian Marine Sciences Association Australasian Society for Phycology & Aquatic Botany
1997	8-11th July, Auckland	University of Otago	
1998	8-11th July, Dunedin	Victoria University of Wellington	
1999	1-3rd September, Wellington	University of Waikato	
2000	30th August-1st September, Hamilton	<i>(held at Jupiters Hotel and Casino)</i>	Australian Marine Sciences Association <i>(held at the Rutherford Hotel)</i>
2001	3-6th July, Townsville	NIWA / NIMIT / Cawthron Institute	Australasian Society for Phycology & Aquatic Botany
2002	2-4th September, Nelson	Auckland University / AUT**	
2003	1-3rd September, Auckland	University of Otago	
2004	6-8th July, Dunedin	Victoria University of Wellington	
2005	22-26th August, Wellington	NIWA / NIMIT / Cawthron Institute	International Marine Bioinvasions / MARGINS <i>(held at the Rutherford Hotel)</i>
2006	20-26th September, Nelson	University of Waikato	
2007	29-31st August, Hamilton	University of Canterbury	Australian Marine Sciences Association
2008	7-10th July, Christchurch	University of Auckland	New Zealand Meteorological Society
2009	2-4th September, Auckland		
		(**Auckland University of Technology)	(*Marine Education Society of Australasia, NZ Branch)

Table 2. Editor and publication information**for NZMSS Newsletters (#s 1-32) and Reviews (#s 33-50)**

Year	Editor(s)	Issue and Publication Date
1960-61	John Bullivant	# 1, February 1961
1961-62	John Bullivant	# 2 June 1962
1962-63	David Pawson	# 3, July 1963
1963-64	Larry Paul	# 4, September 1964
1964-65	Larry Paul	# 5, May, # 6, August 1965
1965-66	Larry Paul	# 7, April; # 8 September 1966
1966-67	Larry Paul	# 9, May 1967
1967-68	Larry Paul	# 10, October 1967
1968-69	Larry Paul	# 11, October 1968
1969-70	Larry Paul	# 12, October 1969
1970-71	Frank Dromgoole	# 13, October 1970
1971-72	Frank Dromgoole	# 14, October 1971
1972-73	Peter Roberts	# 15, October 1972
1973-74	Peter Roberts	# 16, November 1973
1974-75	Peter Roberts	# 17, December 1974
1975-76	Peter Roberts	# 18, December 1975
1976-77	Peter Roberts & John McKoy	# 19, December 1976
1977-78	John McKoy	# 20, December 1977
1978-79	Gavin James & John McKoy	# 21, December 1978
1979-80	Gavin James & Philip Tortell	# 22, December 1979
1980-81	Philip Tortell & Rob Mattlin	# 23, December 1980
1981-82	Rob Mattlin & Rosemarie Thompson	# 24, December 1981
1982-83	Dennis Gordon & Rosemarie Thompson	# 25, December 1982
1983-84	Dennis Gordon & Rosemarie Thompson	# 26, December 1983
1984-85	Dennis Gordon & Rosemarie Thompson	# 27, December 1984
1985-86	Mike Beardsell & Geoff Baird	# 28, December 1985
1986-87	Mike Beardsell & Geoff Baird	# 29, December 1986
1987-88	Mike Beardsell & Geoff Baird	# 30, December 1987
1988-89	David Schiel	# 31, December 1988
1989-90	Ned Pankhurst	# 32, February 1990
1990-91	Ned Pankhurst	# 33, March 1991
1991-92	Ned Pankhurst	# 34, April 1992
1992-93	Philip Mladenov	# 35, July 1993
1993-94	Philip Mladenov	# 36, June 1994
1994-95	Philip Mladenov	# 37, August 1995
1995-96	Kim Pritchard	# 38, August 1996
1996-97	Kim Pritchard	# 39, July 1997
1997-98	Kim Pritchard	# 40, July 1998
1998-99	Justine Saunders	# 41, September 1999
1999-2000	Justine Saunders	# 42, September 2000
2000-01	<i>(no Review published)</i>	
2001-02	Trevor Willis	# 43, November 2002
2002-03	Amy Robinson	# 44, December 2003
2003-04	Amy Robinson	# 45, June 2004
2004-05	Lesley McLeod	# 46, July 2005
2005-06	Lesley McLeod	# 47, August 2006
2006-07	Lucy Jack	# 48, May 2007
2007-08	Natalie Robinson	# 49, June 2008
2008-09	Natalie Robinson	# 50, May 2009

Table 3. New Zealand Marine Sciences Society Roll of Honour - Council Office Bearers

Year	President	Vice President	Secretary	Treasurer
1960-61	Professor George Knox (interim Chairman)		Mr John Bullivant	<i>(The Secretary/Treasurer held all secretarial and financial responsibilities prior to 1983, when a separate Treasurer position was established on Council.)</i>
1961-62	Dr Robert Falla or Professor George Knox **		Mr John Bullivant	
1962-63	Professor George Knox		Mr Dave Pawson	
1963-64	Dr Dick Dell		Mr Dave Pawson	
1964-65	Dr Dick Dell		Mr Winston Ponder	
1965-66	Dr R Morrison Cassie	Dr Betty Batham	Mr Winston Ponder	
1966-67	Mr Jim Brodie	Dr Richard Pike	Mr Colin Summerhayes	
1967-68	Dr Richard Pike	Mr Duncan Waugh	Dr Len Tong	
1968-69	Mr Duncan Waugh	Professor RFH Freeman	Dr Len Tong	
1969-70	Professor RFH Freeman	Dr John Jillett	Mr Alan Baker	
1970-71	Dr John Jillett	Dr John Yaldwyn	Dr Alan Baker	
1971-72	Dr John Yaldwyn	Dr Alan Baker	Dr Derek Burns	
1972-73	Dr Alan Baker	Mr Elliot Dawson	Dr Derek Burns	
1973-74	Dr Alan Baker	Mr Elliot Dawson	Mr Bob Hickman	
1974-75	Mr Larry Paul	Dr Bob Kirk	Mr Bob Hickman	
1975-76	Mr Larry Paul	Dr Bob Kirk	Mr Bob Hickman	
1976-77	Dr Bob Kirk	Dr Bob Cooper	Ms Jo Ackroyd	
1977-78	Dr Charles Boyden	Dr Brian Foster	Mr Seddon Bennington	
1978-79	Dr Don Robertson	Dr Brian Foster	Dr John Bass	
1979-80	Professor John Wells	Dr Janet Bradford	Dr John Bass	
1980-81	Professor John Wells	Dr Janet Bradford	Dr Rob Mattlin	
1981-82	Dr Ron Heath	Mr Gavin James	Dr Janet Bradford	
1982-83	Dr Ron Heath	Mr Gavin James	Dr Janet Bradford	
1983-84	Mr Gavin James	Dr Rob Mattlin	Dr Rosie Hurst	Mr Malcolm Francis
1984-85	Dr Rob Mattlin	Dr Islay Marsden	Dr Rosie Hurst	Mr Malcolm Francis
1985-86	Dr Rosie Hurst	Dr Lionel Carter	Dr Mary Livingston	Mr Peter McMillan
1986-87	Dr John McKoy	Dr Graham Hardy	Dr Cameron Hay	Dr Rob Murdoch

1987-88	Dr David Schiel	Dr Bob Creese	Dr Malcolm Clark	Mr Bob Hickman
1988-89	Dr David Schiel	Dr Janet Bradford	Dr Malcolm Clark	Mr Bob Hickman
1989-90	Dr Alistair MacDiarmid	Dr Janet Bradford	Dr Malcolm Clark	Mr Bob Hickman
1990-91	Dr Alistair MacDiarmid	Dr Janet Bradford	Dr Malcolm Clark	Mr Bob Hickman
1991-92	Dr Chris Battershill	Professor Philip Mladenov	Dr Stuart Hanchet	Mr Bob Hickman
1992-93	Mr Ken Grange	Dr Paul Gillespie	Dr Stuart Hanchet	Dr Abby Smith
1993-94	Mr Ken Grange	Dr Paul Gillespie	Dr Liz Slooten	Dr Abby Smith
1994-95	Dr Liz Slooten	Dr Russ Babcock	Dr Julie Hall	Dr Abby Smith
1995-96	Dr Liz Slooten	Dr Russ Babcock	Dr Julie Hall	Dr Bob Creese/Ms Glenys Knight
1996-97	Dr Rob Murdoch	Dr Russ Babcock	Dr Julie Hall	Ms Glenys Knight
1997-98	Dr Rob Murdoch	Dr Russ Babcock	Ms Carol Stewart	Mr Bob Hickman
1998-99	Dr Russ Babcock	Dr Dan McClary	Dr Karen Tricklebank	Mr Bob Hickman
1999-2000	Dr Russ Babcock	Dr Dan McClary	Dr Karen Tricklebank	Mr Bob Hickman
2000-01	Dr Dan McClary	Dr Karin Bryan	Dr Karen Tricklebank	Mr Bob Hickman
2001-02	Dr Dan McClary	Dr Karin Bryan	Ms Vicki Seagar	Mr Bob Hickman
2002-03	Dr Mark Gibbs	Dr Karin Bryan	Ms Vicki Seagar	Mr Bob Hickman
2003-04	Dr Mark Gibbs	Dr Karin Bryan	Ms Vicki Seagar	Mr Bob Hickman
2004-05	Mr Bob Hickman	Dr Kathy Walls	Dr Alison MacDiarmid	Mr Bob Hickman
2005-06	Mr Bob Hickman	Dr Kathy Walls	Dr Alison MacDiarmid	Dr Dan McClary
2006-07	Dr Abby Smith	Dr Sheryl Miller	Dr Alison MacDiarmid	Dr Andrea Alfaro
2007-08	Dr Abby Smith	Dr Sheryl Miller	Dr Alison MacDiarmid	Dr Andrea Alfaro
2008-09	Dr Sheryl Miller	Dr Colin McClay	Dr Alison MacDiarmid	Dr Claire Conwell
2009-10	Dr Megan Stewart	Dr Colin McClay	Dr Alison MacDiarmid	Dr Claire Conwell
				Dr Chris Cornelisen

** The records concerning the earliest succession in the role of President are unclear
Marine Sciences Newsletter No 1 records Professor Knox as Interim Chairman at the initial meeting on 16th May 1960
Larry Paul's 1976 President's Address lists Dr Falla as Interim Chairman, followed by Professor Knox as President

Table 4. Society members who have served on the NZMSS Council (from 1964/65 to 2008/09 [as recorded in N/L's from # 6] but missing data for 1973/74 & 974/75)

(NB The "Years on Council" does not include any years served in any of the Officer positions)

Surname	First name	Years on Council
Alfaro	Andrea	2004/05 & 07/08/09
Allsop	Graham	1980/81
Andrews	P B	1969/70/71
Annala	John	1984/85
Babcock	Russ	1993/94
Baker	Alan	1968/69
Ballantine	Bill	1965/66/67/68/69
Barker	Mike	1981/82
Barnaby	Claire	2002/03
Battershill	Chris	1990/91
Bennett	Claire	2006/07
Bennington	Seddon	1975/76/77
Bolton	Lesley	1996/97
Boyden	Charles	1976/77
Bradford/Grieve	Janet	1975/76/77/78/79 & 94/95/96/97/98/99
Bryan	Karin	1999/2000
Carbines	Megan	2008/09
Carter	Lionel	1983/84/85
Castle	Peter	1969/70
Chapman	Val	1964/65

Choat	Howard	1978/79
Cole	Russell	1997/98/99/2000/01/02
Cooper	Robert	1971/72/73 & 75/76
Costello	Mark	2004/05/06/07/08/09
Cranfield	John	1972/73 & 82/83
Creese	Bob	1994/95
Cryer	Martin	2002/03/04/05/06/07
Dawson	Elliot	1970/71
Dawson	Steve	2005/06
Dromgoole	Frank	1969/70
DuFresne	Sam	1999/2000/01
Duder	Emily	2008/09
Fincham	Andrew	1972/73
Foster	Brian	1970/71/72 & 79/80
Francis	Malcolm	1982/83
Gardner	Jonathan	2004/05/06/07
Garrett	Suzanne	2006/2007/08
Garrick	Jack	1967/68
Gibbs	Mark	1999/2000/01/02
Gillespie	Paul	1991/92
Gillie	R D	1975/76
Gilpin-Brown	J B	1964/65
Glasby	Geoff	1971/72
Gordon	Douglas	1975/76
Grange	Ken	1979/80/81/82 & 88/89 & 96/97
Hall	Julie	1993/94 & 97/98/99
Hanchet	Stuart	1989/90

Hardy	Graham	1983/84/85/86/87
Haws	Zoe	2006/07
Healy	Terry	2002/03/04/05
Heath	Ron	1980/81 & 83/84/85
Hickford	Milke	2007/2008/09
Hickman	Bob	1992/93
Hicks	Geoffrey	1980/81/82/83
Hollings	Tom	1987/88/89/90
Hooker	Simon	1996/97
Hume	Terry	1985/86 & 89/90/91/92
Iball	Susie	1995/96
Jack	Lucy	2006/07
James	Gavin	1979/80
Jasperse	Jaap	1993/94
Jillett	John	1967/68/69 & 77/78
Jones	Malcolm	1976/77
Kensler	Craig	1966/67
Kibblewhite	Alex	1972/73
Kirk	Bob	1968/69
Knight	Glenys	1997/98
Larcombe	Mike	1970/71
Livingston	Mary	1984/85 & 86/87 & 95/96 & 08/09
Luckens	Penny	1969/70
Mannering	Ian	1966/67/68 & 71/72/73
Marsden	Islay	1983/84 & 85/86/87 & 2002/03/04
Mattlin	Robert	1981/82 & 85/86
McClary	Dan	1996/97/98

McCrone	Ann	2006/07/08/09
McKoy	John	1983/84
McLay	Colin	1988/89 & 2005/06/07/08/09
McMillan	Peter	1986/87/88
Miller	Michael	1964/65
Mladenov	Phillip	1990/91 & 92/93
Morgans	J F C	1964/65/66
Murdoch	Rob	1987/88/89
Neale	Don	2000/01/02/03/04/05/06
Nelson	Wendy	1982/83/84 & 91/92
Paavo	Brian	2006/07/08/09
Pankhurst	Ned	1989/90/91/92
Parsons	Murray	1976/77
Paul	Larry	1966/67 & 70/71/72
Paulin	Chris	1989/90/91 & 97/98 & 2000/01/02
Pickrill	Dick	1985/86/87
Pike	Richard	1965/66
Pilditch	Conrad	1999/2000/01/02 & 06/07/08/09
Probert	Keith	1988/89
Rainer	Sebastian	1965/66
Rhodes	Lesley	1996/97
Ritchie	Lew	1977/78/79
Roberts	Clive	1994/95 & 98/99/2000
Robertson	Don	1979/80 & 96/97/98
Robinson	Natalie	2007/2008/09
Roper	David	1977/78
Ross	Phil	2007/2008/09

Schiel	David	1987/88 & 91/92/93
Schnabel	Kareem	2006/07
Sewell	Mary	2002/03/04/05/06/07/08/09
Sharples	Jonathan	1993/94/95
Slooten	Liz	1992/93 & 96/97/98/99
Sommerville	Emma	2007/2008/09
Steger	Kate	2006/07
Stewart	Megan	2000/2001/02
Stewart	Brian	1997/98
Stewart	Carol	1999/2000/01
Summerhayes	Colin	1965/66
Tong	Len	1969/70
Tortell	Philip	1979/80/81/82
Town	John	1985/86
van der Linden	Willem	1964/65
van der Lingen	G J	1968/69
Vennell	Ross	1992/93/94/95
Walls	Kathy	1996/97/98/99/2000/01/02/03/04
Wear	Bob	1982/83 & 84/85/86/87/88
Wells	John	1981/82
Williams	Barbara	1977/78
Willis	Trevor	2001/02
Wisely	Bjorn	1967/68
Wood	Anna	2006/07/08/09

Table 5. First Overseas Conference Travel Fund Recipients, 1991-2009

1991	Tony Larson	Auckland	4 th International Phycological Congress, Dale University, Durham, USA
1991	Willem de Lange	Waikato	“The role of sodium and nitrogen in the lipid metabolism of a marine diatom” Coastal Sediments '91, Seattle, Washington, USA
1992	Abigail Smith	Waikato	9 th International Bryozoology Association Conference, Swansea, Wales
1992	Vivien Pybus	Otago	“Bryozoan productivity in the Hauraki Gulf, New Zealand” 6 th International Symposium for Microbial Ecology, Barcelona, Spain
1993	Lesley Rhodes	Cawthron	“Antagonistic substances produced by <i>Vibrio anguillarum</i> ” The Biology of Prymnesiophyta, Plymouth, England
1993	Mark Morrison	Auckland	“Prymnesiophytes of New Zealand coastal waters” 9 th International Pectinid Workshop, Nanaimo, Canada
1994	Brian Stewart	Otago	“Recruitment to artificial collectors of the scallop <i>Pecten novaezelandiae</i> in northwestern NZ” 8 th International Echinoderm Conference, Dijon, France
1994	Diana McCully	Otago	“Aspects of the reproduction and anatomy of the euryalimid snake star <i>Astrobrachion constrictum</i> ” PACON '94, Townsville, Australia
1997	Chris Clarke	Auckland	3 rd International Abalone Conference, Monterey, California
1997	Sharon de Luca	Auckland	“Factors affecting growth and survival of cultured paua (<i>Haliotis iris</i>) in northern NZ” 18 th Annual Meeting of the Society of Environmental Toxicology & Chemistry, San Francisco, US
1998	Megan Stewart	Auckland	“Indicators of effects of waste discharges on the New Zealand little neck clam” 19 th Annual Meeting of the Society of Environmental Toxicology & Chemistry, Nth Carolina, USA
1998	Mike Taylor	Auckland	2 nd International Conference on Shellfish Restoration, Sth Carolina, USA “Restoration of the New Zealand little neck clam <i>Austrovenus stutchburyi</i> ”
1999	Smita Apte	Victoria	16 th International Seaweed Symposium, Cebu City, Philippines “Kinetics of ammonium assimilation in two seaweeds <i>Enteromorpha</i> sp and <i>Osmundaria colensoi</i> ” World Aquaculture '99, Sydney, Australia

1999	Jane Sherrard	Otago	1999 American Geophysical Union Spring Meeting, Boston, USA “Selenium speciation across an ocean front”
1999	Manel Dias-Wanigasekera	Otago	3 rd International Lobster Congress, Adelaide, Australia
1999	Nicole Goebel	Otago	Primary Productivity of Planet Earth, Plymouth, England “Factors controlling primary production in Doubtful Sound, New Zealand”
2000	Julia Phillips	Otago	54 th Annual Meeting of the Phycological Society of America, San Diego, USA “Seasonal and zonal variation in nitrogen source for four intertidal seaweeds from NZ”
2001	Paul Brewin	Otago	9 th Deep-Sea Biology Symposium, Galway, Ireland “The deep basins of doubtful Sound, Fiordland, New Zealand – benthic community structure”
2001	Darin Drumm	Otago	9 th International Coral Reef Symposium, Bali, Indonesia
2001	Oliver Gussmann	Otago	“Remote sensing and GIS: developing a spatial model of reef top habitats and marine invertebrates” 9 th International Coral Reef Symposium, Bali, Indonesia “Carbonate production and destruction by <i>Halimeda</i> on a Fijian reef”
2001	Nick Shears	Auckland	2001 Australasian Society of Phycology and Aquatic Botany Conference, Heron Island, Australia “Effects of marine reserves on macroalgal diversity, biomass and productivity in northeastern NZ”
2002	Paul Gribben	Auckland	European Aquaculture Society’s Annual Conference, Trieste, Italy “Aquaculture development of geoduck <i>Panopea zelandica</i> in New Zealand”
2003	Catherine Beard	Waikato	Mangrove: Connecting Research and Participative Management, Salvador, Brazil
2003	Kenichi Fukuda	Otago	13 th Goldschmidt Conference, Kurashiki, Japan “Benthic foraminiferal Mg/Ca ratios for paleotemperatures”
2003	Nicky Wiseman	Auckland	Society for Marine Mammals 2003 Conference, Greensboro, North Carolina, USA “Vessel strikes of Bryde’s whales (<i>Balaenoptera edeni</i>) in New Zealand”
2004	James Williams	Auckland	Aquaculture ’04, Honolulu, Hawaii, USA “Patterns of reproduction and spawning behaviour for scallops, <i>Pecten novaezelandiae</i> , in NZ”
2005	Kelly Merrin	Canterbury	6 th International Crustacean Congress, Glasgow, UK “The phylogeny of the deep-sea isopod family, the Munnopsidae”
2006	Jean McKinnon	Otago	Cephalopod International Advisory Council Symposium, Hobart, Tasmania, Australia

2006	Emma Newcombe	Auckland	7 th International Temperate Reefs Symposium, Santa Barbara, California, USA
2006	Brian Paavo	Otago	“The importance of a zooplankton subsidy to a fish-mesograzers-seaweed food chain”
2006	Craig Radford	Auckland	2006 Sediment Profile Imagery Conference and Workshop, Galway, Ireland
2007	Michelle Carter	Victoria	“A novel sediment profile imaging device for manual use from small vessels in shallow waters”
2007	Sebastien Delaux	Canterbury	13 th Ocean Sciences Meeting, Honolulu, Hawaii, USA
2007	Milena Palka	Victoria	“Ambient underwater noise in temperate waters of north-eastern New Zealand”
2007	Will Rayment	Otago	International Bryozoan Association Conference, Boone, North Carolina, USA
2007	Andrea Contreras	Canterbury	“The function of avicularia in bryozoans”
2008	Eileen Koh	Victoria	6 th International congress on Industrial and Applied Mathematics, Zurich, Switzerland
2008	Tim Young	AUT	“Adaptive simulation of fluid-propagule interaction: application to the settlement of seaweed”
2008	Tania Hurley	Canterbury	Australian Coral Reef Society 83 rd Annual Conference, Freemantle, Australia
2008	Natalie Robinson	Otago	“Impacts of salinity and temperature on the photophysiology of a temperate sea anemone”
2008	Lauren Fletcher	Victoria	17 th Biennial Conference on the Biology of Marine Mammals, Cape Town, South Africa
2008	William Arlidge	Victoria	“Distribution and movements of Hector’s dolphin: implications for protected area design”
			13 th International Conference on Harmful Algae, Hong Kong, China
			“Physiological effects of paralytic shellfish toxins in New Zealand marine bivalves”
			3 rd International Conference on Polar and Alpine Microbiology, Banff, Canada
			“Ecology of phototrophic microbes in Antarctic sea ice”
			8 th International Larval Biology Symposium, Lisbon, Portugal
			“Chemical cues which induce larval settlement in the New Zealand green-lipped mussel”
			8 th International Temperate Reef Symposium, Adelaide, Australia
			“Sediment gradients, disturbance and community structure on rocky reefs in southern NZ”
			MOCA-09, Montreal, Canada; & the Int. Symposium on Glaciology in the IPY, Newcastle, UK
			“Ocean Processes in the Under-Ice Boundary Layer near an Antarctic Ice Shelf”
			6 th International Conference on Marine Bio-invasions, Portland, Oregon, USA
			“Reproductive biology and dispersal mechanisms of the ascidian <i>Didemnum vexillum</i> ”
			84 th Australian Coral Reef Society Conference, Darwin, Australia
			“Viral community assemblages associated with hermatypic corals in relation to environmental variables on Coconut Island, Hawaii”

- 2009 Natalie Nolan Otago 18th Biennial Conference on the Biology of Marine Mammals, Quebec City, Canada
 “Human induced changes in NZ sea lions at Sandfly Bay, Otago, NZ”
- 2009 Philip Ross Waikato Coastal & Estuarine Research Federation Conference, Portland, Oregon, USA and the
 Western Society of Naturalists Meeting, Monterey, California, USA
 “Connectivity among New Zealand estuaries: using the common cockle, *Austrovenus stutchburyi*, as
 a model to examine inter-estuary dispersal and predict larval transport”

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