

National Animal Ethics Advisory Committee

Mission Statement

“To provide independent, high quality advice and recommendations to the Minister of Agriculture, the Director-General of Agriculture, Animal Ethics Committees and others on all matters relating to the use of animals in research, testing and teaching.”

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The National Animal Ethics Advisory Committee (NAEAC) is pleased to provide its eighth annual report since the Animal Welfare Act 1999 (the Act) came into force.

The relationships between animals and people are strong and the use of animals in research, testing and teaching (RTT) is an issue on which there are conflicting attitudes reflecting different societal values. This is not new. The UK Protection of Animals Act 1835 became part of the law of New Zealand in 1840. Since then successive Parliaments have enacted progressive animal welfare legislation. The 1999 Act, enacted after lengthy and thorough consideration, made significant changes in the New Zealand approach to animal welfare. In particular, part 6 of the Act provides a comprehensive framework for regulating the use of animals in RTT.

Those who take issue with the use of animals in RTT express their views in different ways. Misinformation and some forms of opposition do not contribute to good public policy. Informed debate, on the other hand, can assist the promotion of high standards of animal welfare and the continued efforts to replace and reduce the use of animals in RTT. NAEAC regards it as important that the New Zealand public should have a balanced picture of RTT activities, the rigour of the statutory regime and the gains to animal and human health, economic welfare and to the environment from the use of animals in RTT. In this endeavour NAEAC works in concert with such bodies as the Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART), a committee of the Royal Society, organisations and individuals engaged in research, testing and teaching activities and the local animal ethics committees (AECs) that oversee such activities.

As the statistics in this report demonstrate, much of the research in New Zealand using animals is dedicated to improving the health and husbandry of our pastoral production. Animal welfare is a significant consideration in international trade as are the testing regimes applied to some New Zealand exports. Another area of significance is the conservation of indigenous species. Researchers in New Zealand are also making notable contributions to promising developments in human health care. In all these cases the Act requires that the benefits derived from the use of animals in RTT are not outweighed by the likely harm to the animals. AECs must assess this balance in deciding whether the research is justified.

Underpinning all this activity is the philosophy of the Three Rs, given statutory recognition by section 80(2)(b) of the Act. Those considering the use of animals in RTT must have regard to the need to:

- **reduce** the number of animals to the minimum necessary to achieve reliable results;
- **refine** techniques so that harm to animals is minimised and benefits maximised; and
- **replace** animals as subjects of research and testing by substituting, where appropriate, non-sentient or non-living alternatives.

Over the past five years NAEAC has made an annual award to a researcher who has made a significant contribution to the implementation of the Three Rs. In 2007 the award was presented to Professor R.N. Hughes of Canterbury University (see section 7.2). An important development in promoting the Three Rs in New Zealand is the recent establishment at Massey University (as a joint initiative of the university and the Ministry of Agriculture and Forestry (MAF)) of the New Zealand Three Rs Programme. The programme will promote the understanding, application and development of the Three Rs in New Zealand and network with other Three Rs centres internationally.

NAEAC's principal roles are to advise the Minister of Agriculture on ethical and animal welfare issues arising from the use of animals in RTT and to provide information and advice to animal ethics committees (AECs). NAEAC's membership (appointed by the Minister of Agriculture) comprises ten members drawn from the research and commercial communities with lay representation from animal welfare, education and local government organisations plus one MAF member.

Crucial to the integrity of the regulatory framework is the role of the animal ethics committees in approving, declining and imposing conditions on all RTT projects involving the use of live animals. No project may be carried out without the approval of an AEC. AECs are also responsible for monitoring compliance with the conditions of project approvals and the state of animal management practices and facilities. By statute, AECs must have at least four members. Three of these must come from outside the organisation and include a veterinarian nominated by the New Zealand Veterinary Association, a nominee from an approved organisation (e.g. the Royal New Zealand SPCA) and a person nominated by a local authority. NAEAC recognises the vital contribution made to the regulatory regime by these external members of AECs.

AECs operate within the criteria imposed by the Act, guidance from NAEAC and MAF, and the boundaries of their individual code of ethical conduct. Such codes, approved by the Director-General of MAF on the advice of NAEAC, are mandatory. Organisations and individuals wishing to engage in RTT may, however, use another organisation's code and AEC. As at 31 December 2007 there were 108 organisations using 31 approved codes and 35 AECs. NAEAC attaches the greatest importance to the development and enrichment of its relationship with the AECs and seeks to enhance it in various ways. Decisions were taken during the year to add an "occasional paper" series to the existing means of communications with AECs and to hold a further national workshop for AEC members during 2008.

An important part of NAEAC's work is the review of codes of ethical conduct. During 2007 the first of the codes approved under the 1999 Act came up for five-year renewal. NAEAC devoted a special meeting, and time at its normal quarterly meetings to the detailed review of these codes. Following discussion with the code-holders, the relevant codes were recommended for renewal to the Director-General and subsequently approved. One new code was also approved during the year.

In considering the renewal of codes, the committee was greatly assisted by the reports provided by the independent reviewers accredited under section 109 of the Act (see appendix 4). The work of the reviewers is an important element in assuring the New Zealand public of the integrity of the regulatory system.

Looking ahead, NAEAC set aside a day in which it identified key strategic issues that will, in the foreseeable future, face those engaged in RTT and in the animal ethics regulatory process. Discussion ranged over such issues as the changing environment and the rapid technological development that characterise the use of animals in RTT and will present

new challenges. The outcome of these deliberations was a strategic plan for the committee for the period 2008–2013. This will be submitted to the Minister early in 2008.

Section 8 reports on the 2007 animal use statistics submitted to MAF by code holders as required by the Animal Welfare (Records and Statistics) Regulations 1999. Overall, at the end of 2007, 246,667 animals were reported as manipulated. This is substantially fewer (22.6%) than the 2006 figure. Year on year fluctuations can in large part be attributed to the three year reporting cycle for long-term projects. To provide a context for considering annual figures, last year's report introduced a three year rolling average (see the graph in section 8.1). This year's rolling three year average is similar to the previous three years, and slightly higher than the long-term average of 273,884.

Animal manipulations are graded according to a five point severity scale. Nearly 80% of the animals reported in RTT in 2007 were categorised as experiencing "no" or "little" suffering (see section 8.8). Eight per cent were classified as "severe" or "very severe". The majority of these animals (almost entirely rodents) were used to ensure the safety and efficacy of animal health products to meet national and international regulatory requirements. These products prevent suffering and death in millions of other animals, both livestock and companion animals. NAEAC strongly supports the efforts of New Zealand industry and government agencies in promoting in vitro (test tube) tests (developed in New Zealand) that remove the need for testing on animals.

Apart from testing, which used 17.2% of the total number of animals used, the principal purposes of manipulation in 2007 were: veterinary research (21.3%) which almost exclusively used farm animals and rodents; basic biological research (20.5%) which used a greater variety of animal species; and medical research (20.0%) for which rodents made up over 90% of animals manipulated. Rodents made up 48.1% of all animals manipulated in RTT compared to 25.2% in 2006. A number of organisations were asked to supply additional information on the rodents used in RTT and this is summarised in section 8.1.

In NAEAC's experience, all possible steps (including a high level of veterinary care and pain relief) are taken to reduce or ameliorate pain.

During 2007 NAEAC lost the services of two members who have made substantial contributions to the committee's work. Both Dr Simon Malpas of the University of Auckland (nominated by the Health Research Council) and Dr Kathleen Parton of Massey University (nominated by the New Zealand Veterinary Association) have acted as deputy chair of NAEAC. I have been grateful for their support. Their experience and wisdom will be missed but we have been very happy to welcome as new members Dr Justine Stewart, Animal Welfare Officer at the University of Auckland and Dr Martin Kennedy from the Department of Pathology at the University of Canterbury.

I record too the committee's appreciation of the continuing support NAEAC members received from the staff of the Ministry of Agriculture and Forestry.

John Martin
Chairperson

Legal Status of the Committee

The Animal Welfare Act 1999 came into effect on 1 January 2000. At that date NAEAC became a statutory committee with its functions and membership set in law. Prior to that, NAEAC had existed since 1984 as a committee that the Minister of Agriculture was required by the Animals Protection Act 1960 to establish, using powers under the Ministry of Agriculture and Fisheries Act 1953 and later the Ministries of Agriculture and Forestry (Restructuring) Act 1997.

Infrastructure

The diagram below illustrates New Zealand's animal welfare infrastructure and NAEAC's role within that framework.



Section 63 of the Animal Welfare Act 1999 prescribes the following functions for NAEAC:

- advising the Minister on ethical and animal welfare issues arising from RTT;
- providing advice and information on the development and review of codes of ethical conduct;
- making recommendations about the approval, amendment, suspension or revocation of codes of ethical conduct;
- making recommendations concerning the setting of standards and policies for codes of ethical conduct;
- providing information and advice to AECs;
- making recommendations on the appointment of accredited reviewers;
- considering the reports of independent reviews of code holders and AECs;
- making recommendations about declaring procedures not to be manipulations (under section 3(3));
- making recommendations about the manipulation of non-human hominids (under section 85);
- making recommendations on the approval of research or testing in the national interest (under section 118(3)).

4 The Committee

4.1 Selection of Members

NAEAC members are appointed by the Minister of Agriculture in accordance with sections 64 and 65 of the Animal Welfare Act 1999. The committee has a maximum of ten members, and a member's term of office may not exceed three years, although members may be reappointed. Appointments are normally for a maximum of two terms, except in exceptional circumstances.

While the Minister has the authority to appoint members, in recent years it has been the policy of successive governments to require appointments to statutory committees to be considered by the Cabinet Appointments and Honours Committee and the Cabinet.

In selecting members (other than the chairperson) the Minister is required to have regard to the following factors:

- the public interest in relation to the use of animals in RTT;
- the need for balance between those involved in RTT and those who are not; and
- the need for the committee to possess knowledge and experience in the following areas:
 - veterinary science;
 - medical science;
 - biological science;
 - the commercial use of animals in research and testing;
 - ethical standards and conduct in respect of animals;
 - education issues, including the use of animals in schools;
 - environmental and conservation management;
 - animal welfare advocacy;
 - any other area the Minister considers relevant.

4.2 Members

The table below lists members of the committee during 2007.

Members	Expiry of Appointment
Mr John R Martin QSO, MA (Hons), Consultant (Independent Chairperson)	31.10.09
Ms Linda A Carsons B Soc Sci (Hons), Senior Policy Adviser Animal Welfare, MAF Biosecurity New Zealand (MAF nominee)	31.10.08
Ms Allison L Dodds MSc (Hons), Dip Tchg, Teacher in Charge of Biology, Animal Welfare Officer, Queens High School (nominated by the Ministry of Education)	31.10.09
Dr Martin A Kennedy BSc (Hons), PhD, Research Associate Professor, Department of Pathology, University of Otago, Christchurch (nominated by the Health Research Council of New Zealand)	31.10.10
Dr Ian J LeGrice BE, Dip TP, BHB, MBChB, PhD, Associate Professor, Department of Physiology and Bioengineering Institute, University of Auckland (nominated by the Royal Society of New Zealand)	31.10.09
Dr Simon C Malpas BSc (Hons), PhD, Associate Professor, Department of Physiology and Bioengineering Institute, University of Auckland (nominated by the Health Research Council of New Zealand)	31.10.07
Dr Roger M Marchant BSc, BVSc, Veterinary Adviser, Schering-Plough Animal Health Ltd (nominated by AGCARM)	31.10.10

Members	Expiry of Appointment
Dr David R Morgan BSc(Hons), MSc, PhD, Scientist (nominated by Landcare Research New Zealand Ltd)	31.10.09
Dr Kathleen H Parton BS, DVM, MS, Senior Lecturer, Institute of Veterinary, Animal and Biomedical Sciences, Massey University (nominated by the New Zealand Veterinary Association)	31.10.07
Mr David J M Peart JP (nominated by Local Government New Zealand)	31.10.08
Mrs Jenifer M Prattley National Vice-President, Royal New Zealand Society for the Prevention of Cruelty to Animals (nominated by the Royal New Zealand SPCA)	31.10.08
Dr Justine H Stewart BVSc, Animal Welfare Officer, University of Auckland	31.10.10

Dr Dave Morgan was appointed during the year to replace Dr Philip Lyver, who stepped down from the committee in late 2006.

During 2007, Dr Simon Malpas and Dr Kathleen Parton retired from the committee having served two terms. The committee wishes to record its appreciation of the significant contributions made by these two members, particularly in their areas of interest and expertise and also the valuable role that each had played during their periods of service as deputy chair. Dr Martin Kennedy and Dr Justine Stewart were appointed to fill the vacancies. Dr Roger Marchant was reappointed for a further term.

4.3 Secretariat

The Animal Welfare Directorate within MAF Biosecurity New Zealand continued to provide high quality support to NAEAC during the year. Joanna Tuckwell, the committee's secretary, Dr Kate Littin, Kirsty Grant and Margaret Handscomb all made valuable contributions to the work of the committee. The committee would also like to thank Haley Shepherd, who has now left the group, for her assistance through the year.

4.4 Deputy Chairperson

The Animal Welfare Act 1999 requires the committee to elect a deputy chairperson at the first meeting of each year. Dr Kathleen Parton was re-elected to fulfil this role in 2007.

4.5 Fees

Government policy requires disclosure of fees paid to members of statutory boards and committees. The daily fee paid to committee members was increased on 1 March 2007 to \$400 for members and \$550 for the chairperson.

Members are paid the fee for attending meetings, with an allowance for preparation time. Members are also reimbursed for travelling expenses. In addition, the chairperson and, on occasion, other members may be paid additional fees for representing the committee at other meetings or for carrying out significant extra work on the committee's behalf.

The table below lists the fees paid during 2007.

Member	Fees paid during 2007 (gross)
J Martin	\$6,625.00
L Carsons ¹	Nil
A Dodds	\$4,750.00
M Kennedy	\$1,000.00
I LeGrice	\$3962.50
S Malpas	\$1,602.50
R Marchant ³	Nil
D Morgan ²	\$2,000.00
K Parton ²	\$2,362.50
D Peart	\$4,050.00
J Prattley	\$3,762.50
J Stewart	\$800.00

1 Ms Carsons is employed by MAF and thus does not receive meeting fees.

2 Fees are paid direct to the member's employer to recompense them for time lost from the member's primary employment.

3 Schering-Plough Animal Health Ltd employees forgo acceptance of meeting fees in accordance with company policy to act as a good corporate citizen and materially assist public good operations where practicable.

4.6 Operations

4.6.1 Meetings

NAEAC met five times in 2007. Four of these meetings were general meetings. The remaining meeting was convened to review applications for codes of ethical conduct which were due to expire at the end of the year.

Temporary working groups were formed to deal with specific issues where necessary. Visitors to the meetings assisted the committee with their special expertise or kept the committee informed of significant current developments.

4.6.2 Strategic and operational plans

The committee reviewed its strategic plan in 1995, 1998, 2001, 2004 and again at a special one-day meeting late in 2007. Operational plans are developed each year based on the strategic plan. Progress against the 2007 operational plan was reviewed at each quarterly meeting.

4.6.3 Performance review

The committee regularly reviews its performance. The system provides members with an opportunity for considered reflection and debate on the way the committee operates. In reviewing its performance in 2007, the committee again paid tribute to the excellent support it receives from all the Animal Welfare Directorate staff of MAF Biosecurity New Zealand. NAEAC members also reaffirmed their commitment to raising public awareness of the robustness of the regulatory system encompassing the use of animals in RTT.

4.6.4 Annual reports

Since 2000, NAEAC has been required by law to provide the Minister of Agriculture with an annual report. In practice, the committee has been doing so for many years. A list of these reports and other relevant publications can be found in appendix 3.

5 Codes of Ethical Conduct

All organisations or individuals that manipulate live animals for the purposes of RTT are required to do so in accordance with a code of ethical conduct recommended by NAEAC and approved by the Director-General of MAF.

5.1 Requirements of the Animal Welfare Act 1999

Under the Animal Welfare Act 1999, codes of ethical conduct must be approved by the Director-General of MAF, as must amendments, suspensions or revocations of approvals. Except in the case of suspension or revocation at the request of the code holder, NAEAC must be consulted before a decision is made. Notice of the Director-General's decision is published in the Gazette.

For those wanting to use another organisation's code and AEC, the statute requires the parties concerned to reach an agreement and for MAF to be notified of the arrangement, in writing, before any manipulations take place. Termination of the arrangement should also be notified to MAF. Such arrangements, or terminations thereof, are not published in the Gazette.

In addition, while major amendments to codes must be approved by MAF, code holders may make minor amendments. However, MAF must be provided with written details of the amendments as soon as practicable after the end of the calendar year in which they were made (and no later than 31 March of the succeeding year). Minor amendments are described in the Animal Welfare Act 1999 as ones "that would not materially affect the purposes of the code".

5.2 Activity During 2007

The table below outlines the applications processed and notifications made during 2006 and 2007.

	2007	2006
Approval of new code	10	1
Notification of arrangement to use existing code	37	27
Approval of amendments to code	0	2
Notification of minor amendments to code	0	5
Termination of notified arrangement to use existing code	15	11
Code expired and not renewed	0	2
Arrangement to use existing code lapsed	5	8

The codes of ethical conduct in force prior to the Animal Welfare Act 1999 were systematically brought into line with, and approved under, the Act between 2002 and 2004. Code holders wishing to apply for a new code, and those code holders with codes approved in 2002 had mandatory independent reviews completed during 2007 (see section 6.2 for more detail).

During 2007, ten new codes were approved which was well up on the one or two approved in the previous two years. There were 37 organisations which made arrangements to utilise existing codes and 15 organisations which terminated their arrangements, the highest number since the Act came into force. All those organisations using codes that expired in 2007 had to renew their arrangements with the same code holder, make a new arrangement with another code holder or make a decision to allow their arrangement to

lapse. Experience shows that some organisations make short-term arrangements, lasting for only one or two years to cover one or a small series of research projects for which they need AEC approval. Others activities which impacts on these figures include the sale of a business, mergers and/or takeovers (see section 93 of the Animal Welfare Act 1999).

Details of all codes approved or revoked and arrangements notified or terminated continue to be published regularly in *NAEAC News* and *Biosecurity*.

5.3 Codes on MAF Website

NAEAC would like to support MAF in offering code holders the opportunity to publish a link to their codes of ethical conduct on the MAF website. It would like to extend this initiative to also include the addition of AEC application forms on the site.

5.4 Approvals in Force

The following table gives details of the number of approvals in force as at 31 December 2006 and 2007.

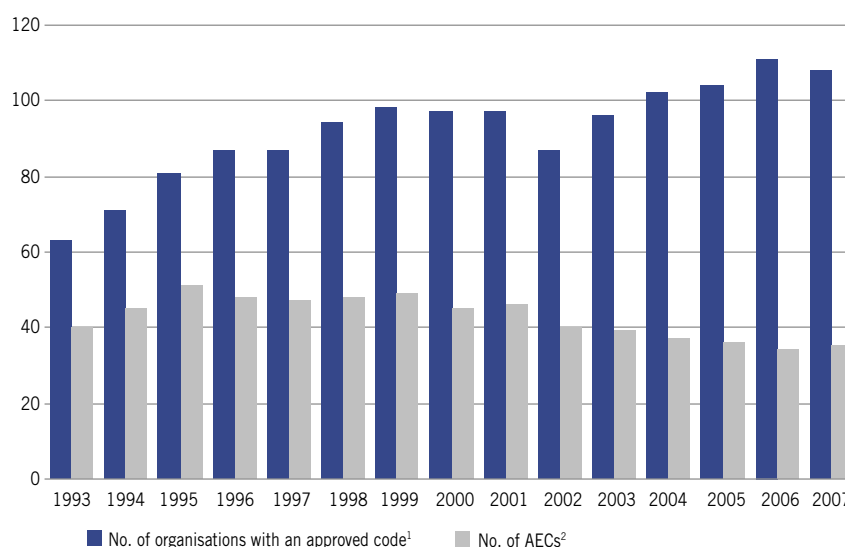
Number of:	2007	2006
Organisations using an approved code	108	111
Approvals in force ¹	111	112
Organisations with a code	31	30
AECs established ²	35	34
Organisations using another organisation's AEC	77	81

1 Three organisations have two approvals in force. One organisation uses a different AEC, and therefore a different organisation's approved code, for different types of projects. Another uses a different AEC for work in different locations and the third is in the process of transferring from one AEC to another.

2 Two organisations have more than one AEC to facilitate work carried out at more than one campus/location.

The number of organisations/individuals using an approved code (their own or another organisation's) has decreased for the first time since 2002, to 108. And, for the first time since 2001, the number of AECs established to deal with projects from all those organisations increased, albeit only by 1, to 35. This is shown more graphically below.

Number of codes and AECs



1 Some organisations may have more than one approval.

2 Excludes AECs set up from time to time under the Department of Education code (1987–2002).

Appendix 1 lists the organisations with an approved code as at 31 December 2007 and indicates those that use another organisation's AEC. Appendix 2 lists those organisations whose codes of ethical conduct have expired or have been revoked or whose arrangements have terminated, most commonly because their activities no longer necessitate a code or after company/organisational mergers where both parties had a code.

It is important to note that the Animal Welfare Act 1999 contains a provision (section 93) that approval of a code is personal to the code holder and not transferable without the consent of the Director-General of MAF. Thus, if a company changes its name as a result of a sale or merges with another entity, this has the effect of revoking the code of ethical conduct approval unless the change is effected with the Director-General's consent.

5.5 Approvals Not Made by AECs

5.5.1 Non-human hominids

The Animal Welfare Act 1999 precludes the use of non-human hominids¹ for the purposes of RTT unless it is carried out with the approval of the Director-General of MAF and in accordance with any conditions imposed by the Director-General.

The Director-General is required to consult NAEAC before exercising the powers under these provisions. Furthermore, the Director-General may not approve such research, testing or teaching unless satisfied that the use of the non-human hominid is in its best interests or in the interests of its species and that the benefits to be derived outweigh any likely harm to the individual animal.

In March 2003, the Director-General approved the first non-human hominid research project pursuant to section 85 of the Animal Welfare Act. A condition of the approval was that the project being undertaken by the doctoral student also had to be approved by the applicant's university's AEC. This approval was subsequently granted. The purpose of the research being undertaken at Wellington Zoo is to obtain information on what a group of captive chimpanzees regard as preferences for enrichment and to use this information to improve their behavioural and physical well-being. The field work and associated reporting requirements were completed during 2007.

5.5.2 Research or testing in the national interest

The Minister of Agriculture may authorise research or testing without the approval of an AEC where the Minister is satisfied that such research or testing is necessary in the national interest.

In reaching a decision, the Minister is required to take into account whether the research or testing:

- is necessary to protect New Zealand's biosecurity interests;
- relates to matters that affect or are likely to affect New Zealand's international obligations;
- is necessary to protect human or animal health.

Unless exercising emergency powers under other statutes, the Minister is required to consult NAEAC before making a decision.

The Minister approved no research or testing in the national interest during the year.

¹ "Non-human hominid" means any non-human member of the family Hominidae, being a gorilla, chimpanzee, bonobo or orangutan (section 2(1) of the Animal Welfare Act 1999).

6 AECs

6.1 Communication with AECs

6.1.1 Visits

NAEAC generally schedules some of its meetings to coincide with visits to code holding institutions. In 2007, it visited Nelson Marlborough Institute of Technology, Natureland Zoo and the Cawthron Institute in Nelson in conjunction with the May meeting. The chairperson and secretary also visited the Schering Plough AEC and animal facilities in November. NAEAC members value the opportunity to meet with those involved in RTT and those serving on, or administering, AECs.

6.1.2 National workshop for AEC members

NAEAC held a one-day national workshop in 2005 and 2006, and is planning to hold a similar workshop in 2008.

6.1.3 Newsletters

NAEAC continues to publish *NAEAC News* to communicate policy decisions, relevant information and items of interest to AECs and other interested parties. Sufficient copies of each issue of *NAEAC News* are sent to all AECs to ensure that each AEC member receives an individual copy. However, the onus remains on recipient organisations to ensure that others within the organisation to whom the publication is relevant (e.g. researchers, teachers, animal care staff, senior executives) do, in fact, have ready access to it.

Two issues of *NAEAC News* were published in 2007; No. 25 in January and No. 26 in August. For a complete list, see appendix 3.

Another mechanism for communication with AECs is the MAF Biosecurity New Zealand publication *Biosecurity*. This six-weekly publication is distributed to those with an interest in animal, plant and forest biosecurity issues and animal welfare. It contains articles that are likely to be of interest and relevance to AECs.

6.1.4 Conferences and workshops

Each year various NAEAC members, or members of the secretariat, attend conferences or workshops of relevance to the committee's work. Information and proceedings from such conferences are circulated or their availability publicised for the benefit of NAEAC and others involved in the use of animals in RTT.

Conferences attended during 2007 were as follows:

- Office International des Epizooties (OIE) General Session, Paris, France, May.
- Royal New Zealand Society for the Prevention of Cruelty to Animals (RNZSPCA) 74th Annual Conference, Wellington, May.
- New Zealand Veterinary Association–Sheep and Beef Cattle Veterinarians Annual Conference, Palmerston North, May.
- Bioethics Council Workshop “Deepening Democracy: New Initiatives in Public Participation”, Wellington, May.
- OIE/International Council for Laboratory Animal Science (ICLAS) /International Association of Laboratory Animal Medicine (IACLAM)/Federation European Laboratory Animal Science Associations (FELASA) Meeting, Lake Como, Italy, June.
- Trans-Tasman Animal Welfare Working Group, Gold Coast, Australia, July.
- New Zealand Association of Science Educators Biennial “BioLive” Conference for biology teachers, Wellington, July.
- New Zealand Veterinary Association–Dairy Cattle Veterinarians Annual Conference, Christchurch, July.

- Australian and New Zealand Council for the Care of Animals in Research and Teaching Conference “Getting it Right”, Melbourne, Australia, July.
- Sixth World Congress on Alternatives and Animal Use in the Life Sciences, Tokyo, Japan, August.
- OIE Permanent Animal Welfare Working Group, Paris, France, September.
- Victorian Bureau of Animal Welfare Annual Scientific Procedures Seminar on the “Management of Humane Endpoints”, Melbourne, Australia, October.
- OIE Regional Commission for Asia, the Far East and Oceania Conference, Queenstown, November.
- OIE Laboratory Animal Ad Hoc Working Group, Paris, France, December.

6.1.5 Reference material for code holders and AECs

NAEAC collated published material and a list of relevant websites into a resource package for new AEC members in 2004 which continues to be regularly updated and distributed on request. It contains information relating to the regulatory framework, the role of an AEC member and guides relating to best practice for caring for animals involved in RTT. This material continues to be an important reference for newly appointed AEC members, as well as a source of information when new and complex issues arise. Literature added to the package in 2007 included an article on “monitoring of compliance” published in NAEAC News 26 and a copy of the MAF Biosecurity New Zealand publication, *Animal Welfare in New Zealand*.

The revised edition of *A Guide for Lay Members of Animal Ethics Committees* was distributed to AECs in April 2007. Extra copies were made available to animal welfare representatives on AECs who attended the RNZSPCA National Conference.

NAEAC is in the process of drafting an article on the management of pain in species less commonly used in RTT which will become available in 2008.

6.2 Independent Reviews of AECs

The Animal Welfare Act 1999 requires code holders and their AECs to undergo periodic independent reviews. Reviews must take place within two years of code approval for new code holders, and prior to the expiry of the code for existing code holders who wish to renew their code approval. Approved codes expire after five years.

Reviews may only be carried out by people who have been accredited by the Director-General of MAF to carry out such reviews. The Director-General is required to have regard for the person’s relevant competencies, their character or reputation and their ability to maintain an appropriate degree of impartiality and independence in conducting reviews. The pool of accredited reviewers stands at six (see appendix 4).

During 2007, nine reviews were carried out; eight were conducted for expiry purposes and one review was conducted for a new code holder (two-year review). No follow-up reviews were undertaken.

Both NAEAC and the Director-General of MAF are supplied with a copy of reviewers’ final reports (as required by the Animal Welfare Act 1999). NAEAC’s role is to take the report into account when considering the recommendation it will make to the Director-General on applications for a new code of ethical conduct. It is MAF’s responsibility to determine whether the code holder has achieved a satisfactory degree of compliance with the code and to determine what steps, if any, the code holder must take to achieve a satisfactory level of compliance.

Reports also contain non-binding recommendations from the reviewer that code holders may find useful.

7 The Year's Issues

7.1 Accredited Reviewers and the "Moderation" Process

Since the Animal Welfare Act came into effect in 1999, NAEAC and MAF have held a teleconference annually with all accredited reviewers (see section 6.2) to discuss the reviews undertaken during the year. The reviewers and representatives from NAEAC and the Animal Welfare Directorate are due to participate in a teleconference early in 2008. NAEAC places significant importance on maintaining consistency within the review process, discussion of issues which may have arisen in undertaking the reviews during 2007 and feedback on possible improvements to the review process.

7.2 Three Rs Award

The NAEAC Three Rs Award, which was instituted in 2003, recognises excellence in the humane use of animals in RTT through the implementation of the Three Rs, specifically:

- **replacement** of sentient animals in experiments with non-sentient or non-living alternatives at every opportunity;
- **reduction** in numbers to the minimum possible; and
- **refinement** of experimental techniques so as to minimise or eliminate any suffering involved.

This year's award was made to Professor Rob Hughes, of the University of Canterbury, for his contributions towards the reduction and refinement of animal use in his psychopharmacological research into the effects of substances, including potential medications, on aspects of cognitive performance. His development of free-choice tests of "neotic preference" contribute strongly to the refinement principle by relying on the animal's natural curiosity about novel stimuli rather than the use of aversive states such as food or water deprivation or avoidance of electric shock for motivation. Likewise, Professor Hughes has been able to significantly reduce the numbers of rats he uses through the development of a procedure to measure an animal's responsiveness to change, a test that is a valid measure of simple learning and both short and long-term memory that requires no training. The responsiveness to change procedure enables considerably more information about effects of a procedure on behavioural processes such as memory and anxiety to be obtained from less than 10% of the number of animals that might previously have been required.

7.3 Suggested Amendments to the Animal Welfare Act

In recent years NAEAC has made recommendations to the Minister of Agriculture proposing that the definition of manipulation should be amended to include (a) killing for the purposes of RTT, and (b) treatment undertaken in the first half of gestation. These recommendations remain under consideration.

7.4 NAEAC's Commitment to the Three Rs

NAEAC is committed to supporting MAF, the New Zealand Food Safety Authority (NZFSA) and the New Zealand scientific community in their efforts to change international practices in the use of animals for regulatory testing.

During the year NAEAC visited the Cawthron Institute and was updated on their experiences with international regulatory testing requirements and the promotion and acceptance of alternatives to current tests. Refer to section 8.10 in NAEAC's 2006 annual report for further detail.

Representatives from NZFSA also addressed the committee on “International Developments in Standards for Marine Biotoxin Testing”, which highlighted the continuing difficulties in achieving the acceptance of chemical alternatives to animal models for testing marine biotoxins, especially by the European Union. Mouse bioassay techniques were still required for all shellfish products exported to Europe, even though chemical techniques had proven to be more effective.

NAEAC has also been updated on MAF’s efforts to promote international harmonisation of the use of animals in regulatory testing in various intergovernmental forums under the auspices of the OIE (World Animal Health Organisation).

7.5 Māori Perspective

From time to time animals of special significance to Māori may be used in RTT. NAEAC has considered this issue and ascertained from AECs their current practice. The experience of AECs is diverse and a number have procedures in place that take into account possible Māori interests. So too do funding agencies. NAEAC has encouraged AECs to consider, where relevant, a Māori dimension in the use of certain species.

7.6 Review of Manipulation Severity Scale

NAEAC and MAF have considered the important commissioned research that reviewed the scale for assessing the severity of live animal manipulations. The purpose of the review, which considered similar scales in place in overseas jurisdictions, was to ensure clarity and minimise any ambiguity in the current categories. The review was broadly supportive of the principles incorporated in the present categories but made a number of proposals for refining the severity scale. It is expected that revised guidance on the application of the manipulation severity scale will be agreed during 2008.

7.7 Attitudinal Research

During 2005 MAF commissioned a national survey to investigate New Zealanders’ attitudes towards the use of animals in RTT. This indicates that national awareness and interest in these areas is relatively low (e.g. only 33% of respondents declared an interest in the subject of animal use in RTT). However, the level of support for the use of animals in these areas was relatively high (e.g. 68% of respondents agreed that the use of animals for research and testing was acceptable as long as there was no unnecessary animal suffering). General awareness of regulations was quite low (e.g. 21% of respondents declared that they were aware of rules or regulations covering use of animals in RTT). When existing legislation was explained, 74% of respondents expressed support.

More complete reporting of the survey’s findings is available in the *New Zealand Veterinary Journal* published in April 2007.

Development of a display board to increase public awareness of the regulatory requirements when using animals in RTT progressed during the year. This can be used at forums such as field days and BioLive Conferences (see section 7.8) and more widely within teaching organisations associated with RTT, i.e. universities and polytechnics.

7.8 Use of Animals in Schools

NAEAC is committed to promoting the administrative as well as educational role of the New Zealand Association of Science Educators Animal Ethics Committee (NZASE AEC).

Teachers and students are more aware of the requirements of the Animal Welfare Act 1999 and are applying in increasing numbers for ethical approval.

The NZASE AEC has provided a heightened awareness of the detail required in applications for approval, especially where intermediate and full primary school students and their teachers are involved in science and technology fairs. There is also a greater awareness among the science teaching and learning community of the importance of daily record keeping relating to the general health of the animals with which they are working – often family pets or animals on the family farm – and in their use of a supervisor and in consulting experts about particular animal species proposed to be used.

During 2007 past and present NAEAC members have presented papers to the World Science Teachers Education Conference in Australia, Biology Teachers at the National Biennial BioLive Conference and at a Teacher Refresher Course.

ANZCCART is to distribute a DVD on the purpose of, and procedural requirements for, animal use in schools during the 2008 school year.

7.9 Liaison with Other Bodies

7.9.1 National Animal Welfare Advisory Committee

NAEAC maintains a close association with the activities of the National Animal Welfare Advisory Committee (NAWAC). NAEAC's chairperson, being an ex officio member of NAWAC, facilitates this inter-committee liaison.

7.9.2 Australian and New Zealand Council for the Care of Animals in Research and Teaching

NAEAC continues to work with the Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) in a number of areas of mutual interest. Communications initiatives for increasing the awareness of regulatory requirements surrounding the use of animals in RTT were discussed at a meeting with ANZCCART representatives during the year. ANZCCART's inclusion of AECs as a special focus area in their 2008 conference is welcomed by NAEAC, as is the pending publication of updated guidelines on euthanasia.

7.9.3 Bioethics Council

NAEAC values a working relationship with the Bioethics Council. During 2007 the chairs of the two bodies met to discuss matters of common interest, including developments since the Council's 2005 report on "The Cultural, Ethical and Spiritual Aspects of Animal-to-Human Transplantation". The chair of NAEAC attended a Council workshop on "Deepening Democracy".

All code holders are required to keep records as specified in the Animal Welfare (Records and Statistics) Regulations 1999 in a readily accessible manner. (For record keeping purposes, the term “code holder” includes any person or organisation that has made arrangements to use an existing code and AEC, as well as anyone with an approval to use non-human hominids.)

The records must be retained for a period of five years after the year to which they relate, and an annual return of the figures for the previous calendar year must be submitted to MAF by 31 January each year. In addition, the regulations empower the Director-General of MAF or any inspector appointed under the Animal Welfare Act 1999 to obtain copies of records or details from them at any time.

Records of the number of animals used in long-term projects are not reported annually to MAF but every three years or at the end of the year in which the project is completed (if less than three years).

The regulations provide penalties for non-compliance, including late submission of returns or supplying false or misleading figures.

8.1 Animal Usage

During 2007, a total of 246,667 “animals”² were reported as “manipulated”³ in “research, testing and teaching”⁴ which is 22.6% less (-71,822) than in 2006. Since 1989, when statistics were first collected by calendar year, there have been only 3 occasions when the total has been less; 1995 (164,285), 1997 (220,990) and in 2004 when a similar number were used (246,122).

Much of this decrease can be attributed to the three-yearly cycle of statistics reporting. Reports for animals used in long-term projects are not required every year but every three years when the project is completed or AEC approval of the project expires, whichever comes first. The 2007 total comes after near record levels of animals being manipulated in 2006 (318,489). A similar trend was seen 3 years ago when 320,911 were used in 2003 followed by 246,122 in 2004.

To illustrate the influence of the three-yearly reporting cycle, the accompanying graph shows the rolling three-year average compared with the annual totals. This years’ rolling 3-year average of 276,123 is similar to the previous 3 years (range 275,942 to 276,906), and is slightly higher than the long-term average of 273,884. Interpreting the rolling 3-year average results, the conclusion is that the use of animals in research, testing and teaching appears to be relatively stable on an annual basis.

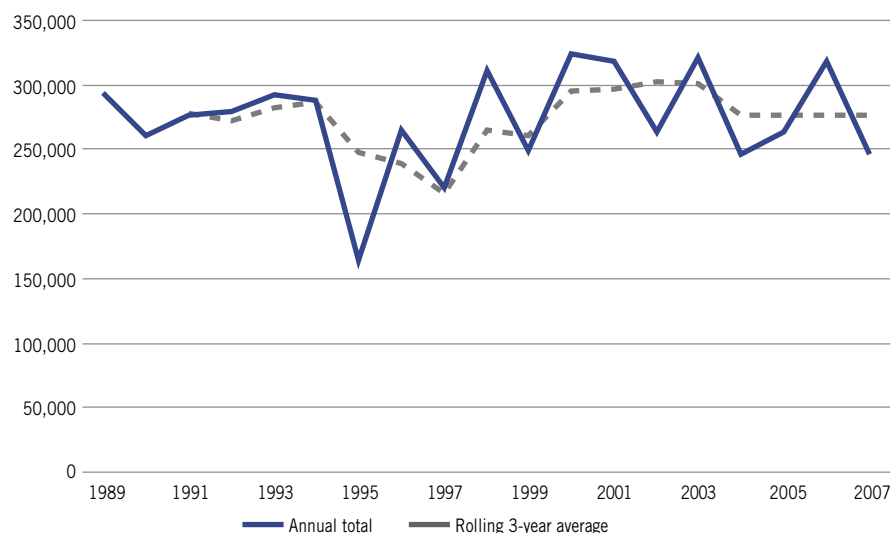
Those species most commonly used in 2007 were (in order) mice, sheep, cattle and rats. These represent 84.3% of the total animals manipulated for RTT. Mice, sheep and cattle have all been included in the four most commonly used animals since 1989. In 2006 birds ranked third. Rats have only featured on one other occasion in the last decade, in 2004 when they also ranked fourth.

² As defined in section 2(1) of the Animal Welfare Act 1999. This definition is set out in appendix 5 of this report.

³ As defined in section 3 of the Animal Welfare Act. 1999 This definition is set out in appendix 5 of this report.

⁴ As defined in section 5 of the Animal Welfare Act. 1999 This definition is set out in appendix 5 of this report.

Animals manipulated 1989 to 2007



In the 2007 reporting year, large decreases were recorded in birds of 90.1% (-53,497) and collectively in sheep, cattle and deer of 32.8% (-47,413). Large percentage reductions were also reported for reptiles of 97.2% (-11,773), possums of 74.8% (-3,746) and amphibia 71.9% (-696). Fifty-eight percent more mice (+34,778) were used than in 2006. There were also notable increases in the use of fish (+5,414), rats (+3,280) and goats (+1,125), or an increase of 61.5%, 19.1% and 125.0% respectively. The remaining 9 species categories, which represented 4.3% (10,506) of the total number of animals manipulated, changed by less than ± 400 animals in each category. See appendix 6 for further detail.

The large decrease in birds is due to reporting of three-year studies in 2006 when approximately 45,000 broiler chickens were involved in welfare assessments and nearly 9,000 chicken eggs were used for disease surveillance and biological control purposes. Likewise, large reptile studies were extensively reported in 2006 at the end of three-year studies.

Overall, the use of agricultural livestock declined by 31.5% (-45,936). The majority of this reduction can be attributed to 10,684 fewer cattle used in teaching, 6,200 fewer deer used in veterinary research and 40,127 fewer sheep were used in husbandry and biological research. Increases were reported across many categories, with the biggest being a 5,413 increase in the use of farm animals for the production of biological agents.

In contrast to 2006, more rodents (guinea pigs, rats and mice) were used in 2007 than farm animals. Rodents made up 48.1% of all animals manipulated in RTT compared to 25.2% in 2006 (118579 cf. 80185 respectively). Eighty-five percent of the rodents reported as being manipulated for RTT in 2007 were used in the following projects:

- Over 26,900 were used to ensure the safety and efficacy of animal health products to meet regulatory requirements both nationally and internationally (see section 8.8.2 for more detail).
- Nearly 11,000 were used for public health testing, mainly for algal bloom-induced marine biotoxins.
- Studies to characterise the properties of different types of immune cells, to understand how these cells communicate with each other, and to gather the basic information necessary for the development of new treatments. These studies involved intravenous or intradermal injections, and the collection of blood at different times to monitor immune responses in approximately 10,100 animals.
- Just over 10,000 rodents were used to develop new vaccines to protect animals against disease (see section 8.8.2 for more detail).

- Approximately 9,100 mice were used in studies aimed at identifying new anti-cancer agents, their mechanism of action and their toxicity. Of these, 612 were used in studies aimed at investigating the potential for gene therapy to aid drug action.
- Nearly 6,600 rats were used in studies aimed at understanding damage to cells in the brain or spinal cord either through injury or disease and the development of therapeutic strategies to limit or reverse the damage.

Between 1,000 and 5,000 rodents were used for each of the following studies:

- for cancer treatment research. The focus of these studies was to identify and improve methods of cancer treatment that exploit the body's natural mechanisms of defence against disease.
- to identify new treatments for autoimmune and inflammatory diseases.
- of infectious diseases, with the goal of generating vaccines for humans and animals, and of understanding how these vaccines can be improved.
- to identify the common properties of "allergens", the molecules that cause allergic disease in humans, and to understand how the body responds to these allergens.
- aiming to identify genetic causes of obesity and the potential for the development a drug to treat obesity.
- investigating the effects of nutrition in early life on long-term health outcomes.
- to investigate the damage to cells of sensory organs (eye or ear) and the development of strategies to limit or reverse the damage.
- to develop models for potential allergic responses to foodstuffs and to measure the bioactivity of synthetic compounds to improve human health.
- aimed at identifying the pathological processes involved in diabetes and strategies to prevent or reverse such pathological changes.
- to investigate the mechanisms of bone loss and the screening of potential therapeutic compounds for osteoporosis.
- for assessing technologies to breed animals to aid gene discovery related to specific human illnesses.
- pest management: development of improved (more target specific and humane) rodenticides; understanding pest community dynamics—for example, what happens when possums are removed—do rodent populations increase?; how habitat characteristics influence rat density.
- relating to the conservation of sooty shearwater. Sooty shearwater chick predation was assessed when postmortems were undertaken on rats.

In addition, just over 1,300 were used for teaching purposes.

Fewer than 1,000 rodents were used in studies:

- to boost the ability of the body to respond to vaccines, particularly those directed against viruses.
- attempting to identify changes in gene activation and protein expression during lactation, with the aim of improving milk production in cattle.
- for the discovery of genes involved in muscle and skin regeneration.
- to assess the ability of naturally occurring plant compounds to cure inflammatory diseases of the digestive tract.
- for testing Botulin toxins in export meat for human consumption where the testing species is specified by foreign regulatory authorities.
- to confirm the validity of a mathematical model that predicts muscle wasting.
- Of the 1,667 "miscellaneous species" used in 2007, 70% were cephalopods/crustaceans (1,165) used mainly for biological research and to a lesser extent for teaching and species conservation. The remaining animals in this category comprised 337 mustelids (199 stoats and 138 ferrets), bats (88), tamar wallabies (58), alpaca (9), donkeys (8) and chinchilla (2) used mainly in basic biological and environmental research, but also for species conservation and teaching.

Wherever it appears the category "cats" includes feral cats. Likewise, wild rats and mice are included in the "rats" and "mice" categories and feral pigs in the "pigs" category.

8.2 Source of Animals

Code holders are required to report on the source of the animals manipulated according to specified categories. The table below shows the percentage of animals that came from each source in the past two years.

Source of animals	2007	2006
Breeding units	48.0%	31.0%
Farms	24.3%	19.2%
Commercial sources	14.2%	33.2%
Captured	7.6%	8.3%
Born during project	4.5%	4.7%
Public sources	1.1%	0.6%
Imported	0.3%	2.9%

As in the past, the largest number of animals (86.5%) came from commercial sources, breeding units and farms. These three categories included most of the farm animals and rabbits. Most of the rodents came from breeding units (92%), some were also captured (2.8%), born during study (2.4%) or obtained from commercial sources (2.2%). A small number were imported (669) or were from public sources (199). Fish and birds were obtained from all sources except imports, but most were obtained by capture (57.0% and 64.4% respectively). The other aquatic species, possums, reptiles and “other species” were mostly captured. Pigs (87), cats (89), rats (1,439) and mice (1930) were also captured for RTT. In 2007, 4.5% of the animals used were born during projects. Sheep featured most predominantly (with 6,493 lambs born), followed by rodents (2,849) and other farm animals (1,407). Birds (316), fish (30), possums (11), reptiles (44) and a rabbit were also born as part of projects. Most cats and dogs were either obtained from breeding units or public sources. However, 89 cats were caught.

Compared to 2006, most of the change in animals sourced from breeding units and commercial sources can be attributed to three movements in animal use; a large increase in mice obtained from breeding units, a decrease in sheep and cattle being sourced from commercial sources and a reduction in bird use from both sources. “Farms” as a source of animals has remained fairly constant since 2001, at 19% to 28% of the total animals used. Fewer animals (-3,909) were born as part of projects in 2007, largely due to a reduction in the number of fish, possums and rats born.

8.3 Status of Animals

Code holders are required to categorise the status of the animals they use. The following table breaks down the animal status for the past two years.

Status of animals	2007	2006
Normal/conventional	90.2%	88.3%
SPF/germ-free	6.1%	2.6%
Protected species	1.2%	4.0%
Unborn/pre-hatched	1.1%	3.1%
Diseased	0.6%	0.1%
Transgenic/genetically modified	0.6%	1.8%
Other	0.2%	0.1%

The majority of animals manipulated in RTT in New Zealand are classified as normal healthy conventional animals. In 2007, 222,515 animals were in this category, which was

58,662 less than 2006. As a proportion of the total number of animals used in 2007, it represents a 1.9% increase when compared to 2006.

Specific pathogen-free (SPF)/germ-free animal numbers nearly doubled (84% increase) in 2007 when compared to 2006 figures (15,101 cf. 8,202 respectively), but were similar to 2005 (17,449) figures. Rabbits and rodents account for all of the animal usage in this category.

Protected species numbers declined from 12,898 in 2006 to 3,024 in 2007 as a result of a number of large projects using reptiles being reported in 2006. As in 2005, birds were the most commonly manipulated protected species in 2007.

Unborn/pre-hatched animal numbers declined (-7,189) primarily because there were no chicken egg studies reported in 2007. Unborn rodents (1,634) and sheep (1,118) were the only species in this category this year.

Sheep numbers with a “diseased” status increased (+1,200) on 2006 figures while the number of transgenic/genetically modified animals manipulated declined from 5,730 in 2006 to 1,374 in 2007. Modified animals included rats, mice and 3 deer.

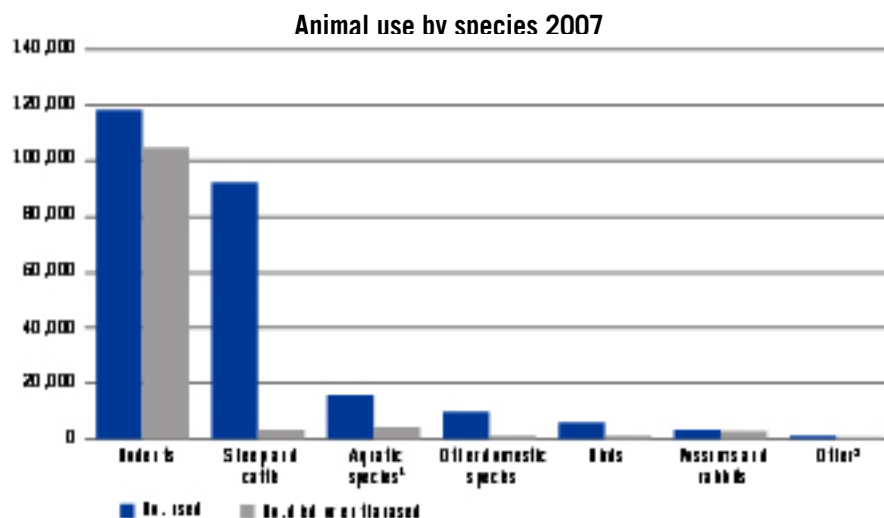
8.4 Outcome

Appendix 6 shows the five-year summary of the animals used (by species) and the percentages that died or were euthanased during, or after, manipulations. The 2007 figure of 48% is representative of the long-term trend of about half the animals being treated in this way. The other 52% were retained (39.7%), returned (43.5%), released to the wild (11.8%) or disposed of to others (5.0%).

The number of animals dying or euthanased as part of the manipulation in 2007 (118,010 animals) was well above 2006 (98,933) and 2005 (104,801), but similar to the number recorded in 2004 (118,371 animals). Individual species continued to follow their long-term trends.

The high survival rates (95.8%) for livestock reflect the number of trials of low invasiveness that took place while the animals remained in their normal farm environment and continued as part of the herd/flock at the conclusion of the trial.

The following histogram shows information on the proportion of animals that died or were euthanased for the major groups of species.

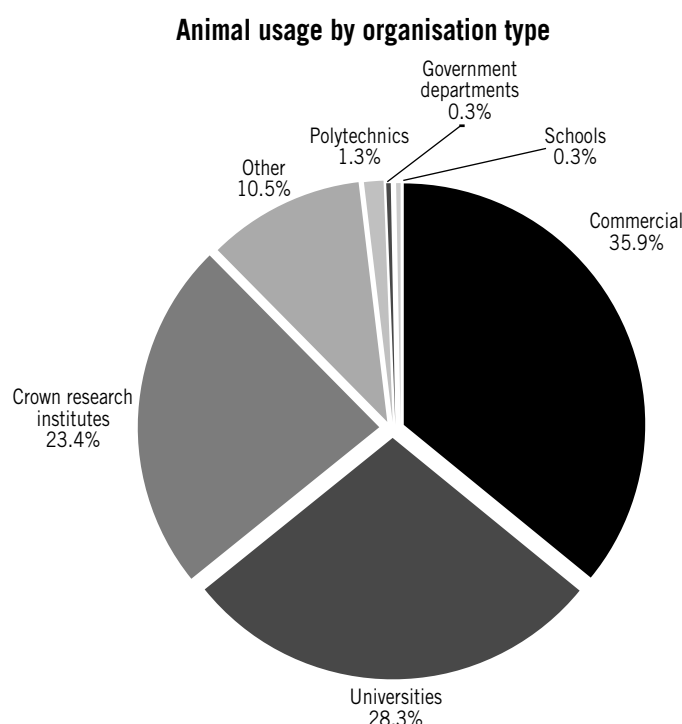


1 “Aquatic species” includes amphibians, fish, marine mammals and cephalopods/crustaceans.

2 “Other” includes reptiles and miscellaneous species as described in section 8.1.

8.5 Organisation Type

Appendix 7 tabulates animal usage by organisation type over the past five years. The pie chart below shows the 2007 information graphically. The top three user groups were (in order) commercial organisations, universities and crown research institutes.



Crown research institutes' (CRIs) animal use dropped by 74,951 to return to pre-2006 levels in 2007. There were significant decreases in the number of birds (-43,500) utilised for animal husbandry, sheep (-21,224) for both basic biological research and animal husbandry, cattle (-6,387) for animal husbandry and reptiles (-4,205) for conservation purposes. All the other species categories were similar to 2006.

The number of animals reported by universities continued to decline for the second consecutive year from a high point in 2005 of 106,222 to 85,625 in 2006 and now 69,575 in 2007. Universities used fewer animals for animal husbandry (-11,293), basic biological research (-8,693), veterinary research (-5,287) and conservation (-4,990). Rodent numbers for medical research (+10,683) increased in 2007.

While commercial organisations' share of animals in RTT increased by 10%, this group only used 2.5% more animals when compared to 2006. Increases in the number of animals used for veterinary research (+8,835), the production of biological agents (+5,717), testing (+4,973) and animal husbandry (+3,924) were partially offset by the decrease in the animals used for teaching (-10,650) and medical research (-6,518).

Organisations in the "other" category include non-university medical research institutes, zoos/wildlife parks and individuals. These organisations reported a substantial increase in the number of rodents (+17,515) and sheep (+3,125) in 2007. Small numbers of birds, cattle, cephalopods/crustaceans and rabbits were also used.

Polytechnics and institutes of technology reported an increase (+1,618) in the number of animals manipulated in 2007 compared with 2006. The wide variety of animals used by this sector were mainly used for teaching purposes, usually for low impact animal husbandry/veterinary nursing or similar training. The only animals not used for teaching were 146 birds which were used for basic biological research and species conservation.

Government departments used a total of 728 animals or 0.3% of the total number of animals used in 2007. This is well down on 2006 figures when 8,508 fertile eggs were reported as used for disease surveillance but similar to the 2005 figure of 759.

Schools have experienced considerable growth in the number of animals reported over the past few years. NAEAC has reported on this separately in section 7.8 of this report. Fewer than 23 animals were manipulated in each of the years between 2001 and 2004. In 2007, 766 animals from a variety of species were used for basic biological research (661) and animal husbandry (63), 15 mice were used for teaching and 27 fish were used for “other” purposes. This number is down on the 2006 total of 1,045 animals.

8.6 Animal Reuse

In 2007, 7.6% of animals were used more than once for RTT. There has consistently been between 4% and 8% of animals re-used in RTT since 2002. Domestic animals, including livestock, were more likely to be reused than rodents and rabbits (90.8% and 3.3% of the total number of animals reused respectively). With the exception of marine mammals, a small number of every animal species was reported as being used more than once in 2007.

8.7 Purpose of Manipulation

Organisations are required to provide information on the purpose of manipulations. The table below shows the breakdown and compares the 2007 figures with those reported in 2006. The full definitions of the “purpose of manipulation” categories are outlined in appendix 8.

Purpose of manipulation	% of animals used	
	2007	2006
Veterinary research	21.3	18.1
Basic biological research	20.5	23.7
Medical research	20.0	7.2
Testing	17.2	11.6
Animal husbandry	7.5	24.9
Teaching	5.2	7.1
Production of biological agents	4.2	1.3
Environmental management	2.3	1.7
Species conservation	1.5	4.0
Other	0.3	0.3
Development of alternatives	0.03	0.0

The number of animals manipulated for animal husbandry purposes fell by 76.8% in 2007, from 79,387 in 2006 to 18,419. A large welfare study investigating lameness in the broiler poultry industry was reported in 2006 which accounted for 54.8% of all the animals used for animal husbandry purposes that year. The number of farm animals used in this category has also dropped by 48.6% when compared to 2006. This year farm animals account for 99.0% of the animals manipulated for animal husbandry purposes. The only other animals used in this category were rodents (172), reptiles (4) and dogs (2).

Veterinary research utilised the most animals in RTT in 2007, even though the number of animals manipulated declined by 5,221 when compared to 2006 (52,561 cf. 57,782 respectively). Farm animals (75.7%) and rodents (22.9%) made up the majority of the species used with fish, possums, cats, dogs, horses and rabbits making up the difference.

Basic biological research numbers declined (-24,846). Large studies that investigated traits in sheep breeding flocks were reported in 2006. Also, noticeably fewer possums (-2,283) and fish (-2,193) were used for basic biological research in 2007.

Animals numbers used in testing rose 15.2% when compared to 2006 (42,378 cf. 36,799 respectively), but remained significantly less than was reported in 2005 when testing accounted for 25.4% (66,737) of the total number of animals manipulated. Rodents made up 90.7% of animals in this category (see section 8.8.2). Cats (24) were used in testing the long-term nutritional adequacy of New Zealand pet food products to international standards requirements. Farm animals (1,845), rabbits (1,435) and fish (624) were also used for testing in 2007. Testing was carried out by commercial organisations (69.5%), CRIs (29.9%), universities (0.5%) and government departments (<0.1%).

The number of animals manipulated for medical research increased by 26,511 in 2007, a rise of approximately 115%. This follows on from an 80% increase reported in 2006. Rats (+4,770) and mice (+ 20,655) are largely responsible for this increase and make up 91.8% of the species manipulated for the purposes of medical research in 2007 (see section 8.1 for further detail). Farm animals (2,691), fish (1,156), rabbits (169), dogs (28) and birds (4) make up the difference.

Teaching utilised 12,876 animals in 2007, down from 22,483 in 2006. Two large commercial organisations teaching artificial insemination in cattle reported on long-term studies in 2006. A significant number of fish (3,118) were also reported for teaching purposes in 2007, up from 185 in 2006.

More than double the number of animals were utilised in the production of biological agents (see appendix 8 for definition detail) in 2007 than in 2006 (10,238 cf. 4,270 respectively). Reporting of long-term studies by several commercial organisations is responsible for this change. While the majority of animals used to produce biological agents were farm animals, rodents (612), horses (279) and rabbits (66) were also used.

Agricultural livestock (24), rats (24), possums (20) and cats (6) were used in the development of alternative techniques to using animals in RTT. Section 8.10 of this report describes the aims of these studies in detail.

Animals manipulated for species conservation and environmental management tended to be birds, aquatic species, reptiles and pest species (rodents, mustelids and possums). Farm animals (997) were also used to study environmental management.

8.8 Grading of Animal Manipulations

Animal manipulations are graded according to the following five-point severity scale specified in the Animal Welfare (Records and Statistics) Regulations:

- a manipulation that causes no stress or pain or virtually no stress or pain (“no suffering or virtually no suffering”);
- a manipulation that causes stress or pain of a minor intensity for a short duration (“little suffering”);
- a manipulation that causes stress or pain of a minor intensity for a long duration or of a moderate intensity for a short duration (“moderate suffering”);
- a manipulation that causes stress or pain of a moderate intensity for a long duration or of a severe intensity for a short duration (“severe suffering”);
- a manipulation that causes stress or pain of a severe intensity for a long duration or of a very severe intensity for any duration (“very severe suffering”).

Appendix 9 summarises this information by species. The tables below provide summaries by year and by species group.

8.8.1 Manipulation grading of animals used over the past five years

Animal numbers in the “no” or “little” suffering manipulation grades have fluctuated over the past five years but can usually be correlated with the change in total number of animals used in most years. In the last 10 years this figure has fluctuated between 76.3% and 88.4% of the total number of animals used each year. In line with expectations, the percentage of animals reported as experiencing “no” or “little” suffering was lower in 2007 because of the large number of three-year studies reporting animals in these groups in 2006.

The number of animals in the “moderate” suffering manipulation grade went from a five-year low in 2006 to a new five-year high in 2007, which represents a 35.3% increase in animals in this category. This increase can be attributed to 10,000 more rodents being classified as experiencing “moderate” suffering in 2007 compared to 2006.

The number of animals in the “severe” or “very severe” suffering manipulation grades increased to 19,825 in 2007 –3,612 more animals were manipulated in these high impact categories than in 2006. The highest ever number of animals in these categories was recorded in 2000 with 47,583 animals. Since then the number of animals in these grades has remained relatively static at around 16,000 per year (range 12,443 in 2004 to 17,265 in 2001) animals per year.

Year	Total animals reported	Manipulation grade categories		
		“No” or “little” suffering	“Moderate” suffering	“Severe” or “very severe” suffering
2003	320,911	273,971	31,391	15,549
2004	246,122	201,087	32,592	12,443
2005	263,214	217,290	29,505	16,419
2006	318,489	277,048	25,228	16,213
2007	246,667	192,718	34,124	19,825
		78.2%	13.8%	8.0%

8.8.2 Manipulation grading of animals used in 2007

The number of animals that experienced “no” or “little” suffering declined in 2007 when compared to 2006 while the number of animals in the other manipulation grades increased.

All the dogs were allocated to “no suffering” or “little suffering” manipulation grades. They were manipulated for teaching (604), testing (386), basic biological research (51), medical research (28) and animal husbandry (2).

Rodents made up 88.5% of all animals that experienced “moderate” suffering as a result of RTT. They are also responsible for the increase in animals allocated to this category in 2007. Section 8.1 of this report describes the research for which the majority of these rodents were used.

The “severe suffering” grade was dominated by rodents which were spread evenly between medical research and testing (45.7% and 44.9% respectively). The remaining rodents were used for basic biological research (5.8%), environmental research (2.7%) and veterinary research (0.9%). The birds in the “severe suffering” grade were used for species conservation (65.3%) and basic biological research (34.7%). Possums (76) and feral pigs (2) were used for environmental management.

Mice (15,382), guinea pigs (881) and rats (68) comprised 98.3% of the animals in the “very severe suffering” grade. Of these rodents 74.0% were used for testing and 25.5% for veterinary research. The balance was shared between research in species conservation

and environmental management. The remaining species in the “very severe” suffering grade were birds (60), feral cats (52), mustelids (49), possums (47), rabbits (37), sheep (24) and cattle (8). The cattle were manipulated for basic biological research and some of the possums, birds and mustelids were used in species conservation. All the other animals were manipulated for environmental management.

2007 summary	Total reported	Number in each manipulation grade				
		No suffering	Little suffering	Moderate suffering	Severe suffering	Very severe suffering
Rodents	118,576	2,835	66,275	30,196	2,939	16,331
Sheep and cattle	92,687	26,281	64,174	2,200	0	32
Aquatic species ¹	15,737	16,74	13,650	413	0	0
Other domestic species	9,700	2,913	6,216	517	2	52
Birds	5,907	1,041	4,153	453	200	60
Possums and rabbits	3,213	251	2,627	175	76	84
Other ²	847	76	552	170	0	49
Grade totals	246,667	35,071	157,647	34,124	3,217	16,608
Grade percentages		14.2%	63.9%	13.8%	1.3%	6.7%

¹ “Aquatic species” includes amphibians, fish, marine mammals and cephalopods/crustaceans.

² “Other” includes reptiles and miscellaneous species as described in section 8.1.

The majority of rodents in the “severe suffering” and “very severe suffering” grades were used for the following purposes:

- The majority (64.0%) were used to ensure the safety and efficacy of animal health products to meet regulatory requirements both nationally and internationally. These products prevent suffering and death in millions of other animals, both livestock and companion animals. In recent years the New Zealand industry, with support from government agencies, has promoted in vitro (test-tube) tests which have been developed in New Zealand. Agreement from international regulatory agencies is required to replace the existing animal-based tests.
- Veterinary research used 21.8% of the rodents in these grades to develop new vaccines to protect animals against disease.
- Both mice and rats (7.0%) were used in medical research studying arthritis and wound healing, novel therapies for irritable bowel disease and in studies aimed at identifying new anti-cancer agents, their mechanism of action and their toxicity.
- Mice (5.6%) were used for public health testing, mainly for algal bloom-induced marine biotoxins which were first detected in New Zealand’s coastal waters in the early 1990s. The biotoxins are bioaccumulated by shellfish and can cause acute illness and even death in shellfish consumers. Testing on mice (bioassay testing) ensures that shellfish are safe for New Zealand and overseas consumers to eat.

Pest species (including possums, rodents, rabbits, mustelids, feral cats and pigs), were reported in the “severe suffering” and “very severe suffering” grades for environmental management studies. They assessed the efficacy and humaneness of improved or new toxins and toxic baits, and new trap designs. These grades also included a variety of other, non-pest species (chickens, birds and sheep) in 2007 which were manipulated to advance the registration of an alternative toxic substance in New Zealand.

8.9 NAEAC Comment

In considering annual animal use statistics, it is important to emphasise that every manipulation having a high negative animal welfare impact must be supported by a strong cost-benefit justification. The justification is individually assessed and approved by the appropriate institutional AEC (all of which include three independent external members) before the work may proceed. The final approval of a research proposal is often the result of a significant iterative process and every AEC benefits from the input and perspective of the external members. The AEC is then responsible for ensuring that the research is undertaken as specified in the approved application. NAEAC, as such, plays no direct role in the approval or monitoring of individual projects but provides general information and advice to AECs.

NAEAC continues to promote the concepts of humane science and the Three Rs (replacement, reduction and refinement) and to actively pursue specific initiatives that contribute to those strategic goals. These include:

- maintaining contacts with “Alternatives Centres” in Europe and North America;
- actively participating in the triennial international Congress on Alternatives and the Use of Animals in the Life Sciences;
- drawing attention to state-of-the-art articles on alternatives and the Three Rs in NAEAC News;
- sponsoring conferences on humane science;
- sponsoring workshops on pain control and its amelioration;
- encouraging regulatory acceptance of alternative non-animal tests where and when applicable;
- encouraging the use of non-animal teaching programmes;
- distributing copies of RDS News to all AECs;
- secondment of New Zealand personnel to the Home Office to gain experience in the United Kingdom animal research regulatory system.

Although the New Zealand animal use statistics collection system is recognised as one of the most comprehensive in the world, NAEAC will continue to pursue refinements and improvements.

In NAEAC’s experience, in all projects associated with moderate, severe or very severe suffering, all possible steps are taken to reduce or ameliorate the negative animal welfare impact. Those steps include a high level of veterinary care where practical, pre- and post-operative pain relief where appropriate, and removal from the study or euthanasia immediately once the research objective is achieved.

8.10 The Three Rs

New Zealand examples of successful implementation of the principles of replacement, reduction and refinement of the use of animals in research, testing and teaching that have come to NAEAC’s attention include:

- Agricultural livestock (24)

Used in the ongoing development of a tissue culture vaccine to replace the use of animals in some parts of the production of vaccines for agricultural livestock.

- Rats (24)

A study was undertaken to refining the husbandry practices of rats held in isolation in metabolic cages. The aim was to isolate the principal causes of stress and if possible, eliminate them, to improve the quality of life for the rats.

- Possums (20)

One of the best strategies for possum biocontrol is to give the animal something (or things) that compromises the balance of the physiological system in such a way that the effect is fatal. An especially useful target is the things in the body that regulate the balance of transport across the membranes of the digestive system so that the compound being delivered gets into the possum's body and disrupts its natural metabolism.

All species control the functions of their bodies (both letting things in and taking them away) by regulatory factors that permit or inhibit the passage of proteins across the membranes that line the digestive tract.

Cells grown and cultured in a test tube can be used to mimic the cells in the body. In this way, instead of using animal tissue in an experiment, it is possible to use the cultured cells as a "model" of what will happen in the animal.

Possums were used in a project where a cultured cell line *in vivo* (Fischer rat thyroid (FRT) cells) that have been transfected with possum cystic fibrosis transmembrane conductance regulator (pCFTR, one of the mechanisms that control the secretion of water into the intestine) is used to investigate the function of pCFTR and to screen compounds that will activate pCFTR.

The animals were used to confirm the findings after specific functions or activators had previously been identified using the transfected cell line.

By showing that the cell line results correctly predict the function of a compound *in vivo* it is estimated that the use of animals for screening potential compounds that may disrupt regulation and function of physiologically active peptides has been reduced by as much as 90%.

The transfected cell line system will be now used for high throughput screening where 100,000 compounds will be screened.

- Cats (6)

Development of an *in vitro* assessment of the glycaemic potency of cat food. The main expected benefits of this work were the establishment of a new *in vitro* assay for determining the glycaemic index (or GGE) on whole foods without having to utilise and take blood from animals, thus reducing animal usage for experimentation in the future.

Additionally, the work provided the foundation for improving cat foods and it is hoped that the development of low GGE foods will improve the long-term health of cats whilst allowing the continued incorporation of carbohydrate in whole diets.

Appendix 1

Organisations with an Approved Code of Ethical Conduct or with Notified Arrangements to Use an Approved Code

(As at 31 December 2007)

*Use another organisation's animal ethics committee

*Abacus Biotech Ltd P O Box 5585 DUNEDIN	*Baldock, Anne Katherine Waikato Institute of Technology Private Bag 3036 HAMILTON 3240	Department of Conservation P O Box 10420 WELLINGTON *Dairs NZ Ltd P O Box 959 HAMILTON
AgResearch Ltd (3 AECs) Ruakura Agricultural Centre Private Bag 3123 HAMILTON	Bay of Plenty Polytechnic Private Bag 12001 TAURANGA 3143	*Eastern Institute of Technology Private Bag 1201 TARADALE
Agrivet Services Ltd PO Box 8734 HAVELOCK NORTH 4157	*Bayer NZ Ltd P O Box 2825 NORTH SHORE	*Elanco Animal Health PO Box 259354 Greenmount AUCKLAND 1730
*AM2 and Associates PO Box 5596 HAMILTON	*BioLogic Scientific Consulting Ltd 23 Union Street PALMERSTON NORTH	*ES Plastics Ltd PO Box 5682 Frankton HAMILTON
Ambreed New Zealand Ltd P O Box 176 HAMILTON Ancare Scientific Ltd P O Box 36240 Northcote NORTH SHORE 0748	*Bomac Research Ltd P O Box 76-369 MANUKAU CITY	Estendart Ltd Massey University Private Bag 11222 PALMERSTON NORTH
*Ancrum Consultancies 134 Wild Road Weedons RD 5 CHRISTCHURCH 7675	*Caledonian Holdings Ltd PO Box 82 Takanini SOUTH AUCKLAND	*Fonterra Innovation Private Bag 11029 PALMERSTON NORTH
*Animal Breeding Services Ltd 3680 State Highway 3 RD 2 HAMILTON	Christchurch Polytechnic Institute of Technology P O Box 540 CHRISTCHURCH 8015	*Fonterra/ViaLactia BioSciences PO Box 49 MORRINSVILLE
*Animal Health Centre P O Box 21 MORRINSVILLE	*Connovation Ltd PO Box 58613 Greenmount MANUKAU CITY 2141	*Fort Dodge NZ Ltd Private Bag 92903 Onehunga AUCKLAND
*Animal Health Research Ltd PO Box 39491 Howick AUCKLAND	*Cook, Trevor George Manawatu Veterinary Services 43 Manchester Street FEILDING	*Four Rings Enterprises Ltd 9 Hurstwood Place Glen Innes AUCKLAND
*Argenta Manufacturing Ltd P O Box 75340 Manurewa MANUKAU 2243	*DairyNZ Ltd Private Bag 3221 HAMILTON	Genesis Research & Development Corporation Ltd P O Box 50 Parnell AUCKLAND
*AsureQuality NZ Ltd Private Bag 3080 HAMILTON	*Dairy Production Systems Ltd P O Box 24132 HAMILTON 3253	*Hillcrest High School P O Box 11020 HAMILTON
Auckland Zoological Park Private Bag Grey Lynn AUCKLAND 1	*Deer Improvement Ltd PO Box 1593 QUEENSTOWN 9348	

*Horticulture & Food Research Institute of NZ Ltd Private Bag 92169 AUCKLAND	Landcare Research NZ Ltd P O Box 40 LINCOLN 7640 Lincoln University P O Box 94 Lincoln University CANTERBURY 8150	New Zealand Forest Research Institute Ltd P O Box 3020 ROTORUA
*Hutt Hospital PO Box 91307 LOWER HUTT	*Livestock Improvement Corporation Ltd Private Bag 3016 HAMILTON	*New Zealand Institute for Crop & Food Research Ltd Private Bag 4704 CHRISTCHURCH
*ImmunoEthical Associates (NZ) Ltd Crofton Park 4 Marshs Road CHRISTCHURCH 8042	Living Cell Technologies NZ Ltd P O Box 23566 Hunters Corner MANUKAU 2155	*New Zealand Leather and Shoe Research Association (Inc) Private Bag 11333 PALMERSTON NORTH
*Impian Technologies Ltd PO Box 17263 Karori WELLINGTON	*MAF Biosecurity New Zealand Investigation and Diagnostic Centre P O Box 40742 UPPER HUTT	*Novartis NZ Ltd 6 MacKelvie Street Grey Lynn AUCKLAND
*Institute of Environmental Science & Research Ltd Private Bag 92021 AUCKLAND	*Malaghan Institute of Medical Research P O Box 7060 WELLINGTON SOUTH	*Oamaru Veterinary Services 311 Thames Street OAMARU
*InterAg (DEC International NZ Ltd) Private Bag 3123 HAMILTON	*Mason Consulting Dunns Crossing Road RD 5 CHRISTCHURCH	*On-Farm Research Ltd P O Box 1142 HASTINGS
*Intervet NZ Ltd PO Box 40882 UPPER HUTT	Massey University Private Bag 11222 PALMERSTON NORTH	*Otago Polytechnic Private Bag 1910 DUNEDIN 9054
*Invitrogen NZ Ltd P O Box 12502 Penrose AUCKLAND 1135	*Merial NZ Ltd P O Box 76211 MANUKAU CITY	*Parnell Laboratories NZ Ltd P O Box 58502 Greenmount AUCKLAND
*IVP International New Zealand Ltd Private Bag 23026 HAMILTON	*Mount Albert Bioactives Research Centre Private Bag 92169 Mt Albert AUCKLAND	*Pest Control Research Ltd P O Box 7223 CHRISTCHURCH 8035
*Kahne Ltd 109 Valley Road Mt Eden AUCKLAND	National Institute of Water & Atmospheric Research Ltd P O Box 8602 Riccarton CHRISTCHURCH	*Pest-Tech Ltd P O Box 40 LEESTON
*Karori Reservoir Wildlife Trust Inc P O Box 9267 WELLINGTON	Nelson Marlborough Institute of Technology Private Bag 19 NELSON	*Pfizer Pty Ltd 14 Normanby Road Mt Eden AUCKLAND
*Kelly Tarlton's Antarctic Encounter and Underwater World PO Box 42021 Orakei AUCKLAND	*Neuren Pharmaceuticals Ltd PO Box 9923 Newmarket AUCKLAND 1149	*PGG Wrightson Consulting PO Box 42 DANNEVIRKE
*KODE Biotech Ltd PO Box 5965 Wellesley Street AUCKLAND 1141	New Zealand Association of Science Educators C/- Royal Society of New Zealand PO Box 598 WELLINGTON	*PGG Wrightson Seeds P O Box 939 CHRISTCHURCH
*Kotare Bioethics Ltd P O Box 2484 Stortford Lodge HASTINGS		*Pharma Pacifica PO Box 22 ASHHURST 4847 PharmVet Solutions P O Box 46153 Herne Bay AUCKLAND 1147

*Photonz Corporation Ltd 442 Scenic Drive Waiatarua WAITAKERE CITY	*Vet Resource 316 Pokuru Road RD 5 TE AWAMUTU 2400
*Protomix Corporation Ltd PO Box 2615 AUCKLAND	*Vet South Ltd P O Box 12 WINTON
Schering-Plough Animal Health Ltd Private Bag 908 UPPER HUTT	Victoria University of Wellington P O Box 600 WELLINGTON 6140
South Pacific Sera Ltd P O Box 27 TIMARU	*Virbac Laboratories (New Zealand) Ltd 30 Stonedon Drive East Tamaki AUCKLAND 1701
Southern Institute of Technology Private Bag 90114 INVERCARGILL	*Virionyx Corporation Ltd P O Box 91806 AUCKLAND
*Tegel Foods Ltd Private Bag 99927 Newmarket AUCKLAND	Waikato Institute of Technology Private Bag 3036 HAMILTON 3240
*The New Zealand Merino Company Ltd PO Box 25160 CHRISTCHURCH	*Wakefield Gastroenterology Research Trust Private Bag 7909 WELLINGTON SOUTH
Thermo Fisher Scientific Inc P O Box 658 TAURANGA	*Wanganui Veterinary Services Ltd PO Box 911 WANGANUI 5015
*Towers Consulting 27 Mansel Avenue HAMILTON	* Ward, Christopher G 1256 Oruru Road RD 2 KAITAIA 0482
*Unitec Institute of Technology Private Bag 92025 AUCKLAND	*Wellington Institute of Technology Private Bag 39803 WELLINGTON
Universal College of Learning Private Bag 11022 PALMERSTON NORTH	*Xcluder Pest Proof Fencing Company Ltd 1000C Hamurana Road RD 2 Hamurana ROTORUA
University of Auckland Private Bag 92019 AUCKLAND 1142	
University of Canterbury Private Bag 4800 CHRISTCHURCH 8020	
University of Otago (3 AECs) P O Box 913 DUNEDIN 9054	
University of Waikato Private Bag 3105 HAMILTON	
Valley Animal Research Centre 43 Kaiapo Road HASTINGS	

Appendix 2

Codes of Ethical Conduct Revoked and Notified Arrangements Terminated

(As at 31 December 2007)

- Agri-Feeds Ltd
- Agriculture New Zealand Ltd
- Agrimm Biologicals Ltd
- AgVax Developments Ltd
- Agvet Consultants Ltd
- Alexander and Associates
- Animal Control Products Ltd
- Animal Health Advisory
- Animal Health Services Centre
- Animalz Napier Ltd
- Aoraki Polytechnic
- Arthur Webster (New Zealand) Pty Ltd
- Aspiring Animal Services Ltd
- Auckland Area Health Board (formerly Auckland Hospital Board)
- Auckland University of Technology
- Autogenous Vaccines
- Baker, Allan J
- Bioscience Corporation Ltd
- Biotechnology Division, DSIR
- Bishop Viard College
- Canesis Network Ltd
- Captec (NZ) Ltd
- Central Institute of Technology
- Chemeq Ltd
- Cooks Laboratories
- Coopers Animal Health New Zealand Ltd
- Crown Research Institutes Palmerston North Campus
- Crusader Meats NZ Ltd
- Department of Education
- Diverse Animal Holdings
- Ecology Division, DSIR
- Embrionics Ltd
- Equine Fertility Services Ltd
- Ethical Agents Ltd
- Falkirk Scientific Foundation Ltd
- Feral R & D Ltd
- Geneco Ltd
- Get Real Productions
- Grasslands Division, DSIR
- Green Lane & National Women's Hospitals
- Health Waikato
- ICPbio Ltd
- Impian Technologies Ltd
- Info-Brok
- Johnson & Johnson (New Zealand) Ltd
- Kristin School
- Lakeland Vets Ltd
- Longburn Adventist College
- Lowe Walker Hawera Ltd
- Marlborough Regional Science & Technology Fair Committee
- McGuire, Paul (Calf Collection Services)
- Meat Industry Research Institute of New Zealand
- Medlab Hamilton
- Ministry of Forestry
- Mulvaney, Christopher John
- National College of Security Personnel and Technology
- Nelson Hospital
- New Zealand Aluminium Smelters Ltd
- New Zealand Institute of Advanced Laparoscopic Surgery
- New Zealand Sheepac Ltd
- New Zealand Trade and Enterprise (formerly Industry New Zealand)
- New Zealand Water Management Ltd
- New Zealand Wildlife Rehabilitation Trust
- Newall, Michael Douglas
- Orana Park Wildlife Trust
- P A Biologicals NZ
- Palmerston North Campus, DSIR
- Palmerston North Hospital Board (later known as Manawatu-Wanganui Area Health Board)
- Parkway College
- Paxarms
- Plade Holdings Ltd
- PPL Therapeutics (NZ) Ltd
- Queen Margaret College
- Rhône-Poulenc (NZ) Ltd
- RisqA Veterinary Consulting
- Robbins, Lloyd
- Roche Products NZ Ltd
- Saint Mary's College
- Salmond Smith Biolab Ltd
- Samuel Marsden Collegiate School

- Scots College
- Shell Chemicals New Zealand Ltd
- Slacek, Brigitte
- Smith, Catherine H
- Smith Kline Beecham (New Zealand) Ltd
(formerly Smith Kline & French NZ Ltd)
- South Auckland Health
- South Greta Farms Ltd
- Sovereign Feeds Ltd
- Stockguard Laboratories (NZ) Ltd
- Suta Export Ltd
- Tatua Co-operative Dairy Company Ltd
- Tauhara Furs Partnership
- The New Zealand King Salmon Company Ltd
- Tompkins, Daniel M
- Travenol Laboratories (New Zealand) Ltd (later
known as Baxter Healthcare Ltd)
- Van Wijk, Niek
- Venous Supplies 1990 Ltd
- Veterinary Enterprises Ltd
- Waikato Science Teachers' Association
- WatPa Enterprises Ltd
- Wellington High School and Community
Institute
- Wellington Polytechnic
- Woodland Goats Ltd
- Wrightson Breeding Services Ltd
- Young's Animal Health (NZ) Ltd
- Zenith Technology Corporation Ltd

Appendix 3

Publications

Guides to the Animal Welfare Act 1999

- Guide to the Animal Welfare Act 1999, policy information paper no. 27
- The Use of Animals in Research, Testing and Teaching – Users Guide to Part 6 of the Animal Welfare Act 1999, policy information paper no. 33

Both documents are available from:

The Manager
MAF Information Bureau
P O Box 2526
Wellington
New Zealand

The documents are also available on MAF's website at <http://www.maf.govt.nz>

Annual Reports

- Report for the Period August 1984–30 June 1989
- Report for the Period 1 July 1989–31 December 1991
- Report for the Period 1 January 1992–31 December 1993
- 1994 Annual Report
- 1995 Annual Report
- 1996 Annual Report
- 1997 Annual Report
- 1998 Annual Report
- 1999 Annual Report
- 2000 Annual Report
- 2001 Annual Report
- 2002 Annual Report
- 2003 Annual Report
- 2004 Annual Report
- 2005 Annual Report
- 2006 Annual Report

Newsletters (NAEAC News)

- Issue 1 – August 1991
- Issue 2 – May 1992
- Issue 3 – August 1993
- Issue 4 – October 1994
- Issue 5 – March 1995
- Issue 6 – December 1995
- Issue 7 – May 1996
- Issue 8 – October 1996
- Issue 9 – April 1997
- Issue 10 – November 1997
- Issue 11 – June 1998
- Issue 12 – December 1998
- Issue 13 – July 1999
- Issue 14 – March 2000
- Issue 15 – September 2000
- Issue 16 – March 2001
- Issue 17 – January 2002
- Issue 18 – July 2002
- Issue 19 – May 2003
- Issue 20 – December 2003
- Issue 21 – August 2004
- Issue 22 – May 2005
- Issue 23 – December 2005
- Issue 24 – August 2006
- Issue 25 – January 2007
- Issue 26 – August 2007

NAEAC Guides

- *Good Practice Guide for the Use of Animals in Research, Testing and Teaching* (September 2002)
- *A Culture of Care: A Guide for People Working with Animals In Research, Testing and Teaching* (October 2002)
- *Guide to the Preparation of Codes of Ethical Conduct* (September 2006)
- *A Guide for Lay Members of Animal ethics Committees* (March 2007)

These publications are available on the Internet at the following address:

<http://www.biosecurity.govt.nz/animal-welfare/pubs/naeac>

or by contacting:

Animal Welfare Directorate
MAF Biosecurity New Zealand
PO Box 2526
Wellington
New Zealand

Phone 04 894 0100, fax 04 894 0747, email: animalwelfare@maf.govt.nz

Appendix 4

Accredited Reviewers

Reviewers Accredited Pursuant to Section 109 of the Animal Welfare Act 1999

Dr Michael D GRANT
AsureQuality Ltd
PO Box 307
PUKEKOHE
Phone: 09-237 1801
Fax: 09-238 3757
Email: grantm@asurequality.com

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CHEVIOT 7384
Phone: 03-319 2928
Fax: -
Email: williams@xtra.co.nz

Appendix 5

Definitions from the Animal Welfare Act 1999

Excerpt from Section 2(1)

“Animal” –

- (a) Means any live member of the animal kingdom that is –
 - (i) A mammal; or
 - (ii) A bird; or
 - (iii) A reptile; or
 - (iv) An amphibian; or
 - (v) A fish (bony or cartilaginous); or
 - (vi) Any octopus, squid, crab, lobster, or crayfish (including freshwater crayfish); or
 - (vii) Any other member of the animal kingdom which is declared from time to time by the Governor-General, by Order in Council, to be an animal for the purposes of this Act; and
- (b) Includes any mammalian foetus, or any avian or reptilian pre-hatched young, that is in the last half of its period of gestation or development; and
- (c) Includes any marsupial pouch young; but
- (d) Does not include –
 - (i) A human being; or
 - (ii) Except as provided in paragraph (b) or paragraph (c) of this definition, any animal in the pre-natal, pre-hatched, larval, or other such developmental stage:

Animal Welfare Act 1999

3 Definition of “Manipulation” –

(1) In this Act, unless the context otherwise requires, the term “manipulation”, in relation to an animal, means, subject to subsections (2) and (3), interfering with the normal physiological, behavioural, or anatomical integrity of the animal by deliberately –

- (a) Subjecting it to a procedure which is unusual or abnormal when compared with that to which animals of that type would be subjected under normal management or practice and which involves –
 - (i) Exposing the animal to any parasite, micro-organism, drug, chemical, biological product, radiation, electrical stimulation, or environmental condition; or
 - (ii) Enforced activity, restraint, nutrition, or surgical intervention; or
- (b) Depriving the animal of usual care; –

and “manipulating” has a corresponding meaning.

(2) The term defined by subsection (1) does not include –

- (a) Any therapy or prophylaxis necessary or desirable for the welfare of an animal; or
- (b) The killing of an animal by the owner or person in charge as the end point of research, testing, or teaching if the animal is killed in such a manner that the animal does not suffer unreasonable or unnecessary pain or distress; or
- (c) The killing of an animal in order to undertake research, testing, or teaching on the dead animal or on prenatal or developmental tissue of the animal if the animal is killed in such a

manner that the animal does not suffer unreasonable or unnecessary pain or distress; or

(d) The hunting or killing of any animal in a wild state by a method that is not an experimental method; or

(e) Any procedure that the Minister declares, under subsection (3), not to be a manipulation for the purposes of this Act.

(3) The Minister may from time to time, after consultation with the National Animal Welfare Advisory Committee and the National Animal Ethics Advisory Committee, declare any procedure, by notice in the Gazette, not to be a manipulation for the purposes of this Act.

(4) The Minister must, in deciding whether to publish a notice under subsection (3) in relation to a procedure, have regard to the following matters:

(a) The nature of the procedure; and

(b) The effect that the performance of the procedure will or may have on an animal's welfare; and

(c) The purpose of the procedure; and

(d) The extent (if any) to which the procedure is established in New Zealand in relation to the production of animals or commercial products; and

(e) The likelihood of managing the procedure adequately by the use of codes of welfare or other instruments under this Act or any other Act; and

(f) The consultation conducted under subsection (3); and

(g) Any other matter considered relevant by the Minister.

5 Definition of "Research, Testing, and Teaching" –

(1) In this Act, unless the context otherwise requires, the term "research, testing, and teaching" means, subject to subsections (2) to (4), –

(a) Any work (being investigative work or experimental work or diagnostic work or toxicity testing work or potency testing work) that involves the manipulation of any animal; or

(b) Any work that –

(i) Is carried out for the purpose of producing antisera or other biological products; and

(ii) Involves the manipulation of any animal; or

(c) Any teaching that involves the manipulation of any animal.

(2) The term defined by subsection (1) does not include any manipulation that is carried out on any animal that is in the immediate care of a veterinarian, if –

(a) The veterinarian believes on reasonable grounds that the manipulation will not cause the animal unreasonable or unnecessary pain or distress, or lasting harm; and

(b) The manipulation is –

(i) For clinical purposes in order to diagnose any disease in the animal or any associated animal; or

(ii) For clinical purposes in order to assess the effectiveness of a proposed treatment regime for the animal or any associated animal; or

(iii) For the purposes of assessing the characteristics of the animal with a view to maximising the productivity of the animal or any associated animal.

(3) The term defined by subsection (1) does not include any manipulation of an animal

–

- (a) Which is carried out with the principal objective of –
 - (i) Assisting the breeding, marking, capturing, translocation, or trapping of animals of that type; or
 - (ii) Weighing or taking measurements from the animal; or
 - (iii) Assessing the characteristics of animals of that type; and
- (b) Which is a manipulation of an animal that –
 - (i) Is carried out routinely; or
 - (ii) Is a minor modification of a manipulation that is carried out routinely; and
- (c) Which is used to fulfill responsibilities and functions under –
 - (i) The Conservation Act 1987; or
 - (ii) Any Act listed in the First Schedule of the Conservation Act 1987; or
 - (iii) Any other Act or regulations under which the Minister of Conservation or the Director-General of Conservation or the Department of Conservation has responsibilities or functions; or
 - (iv) The Fisheries Act 1996.

(4) For the purposes of this section, an animal is in the immediate care of a veterinarian if the veterinarian –

- (a) Has accepted responsibility for the health and welfare of the animal; and
- (b) Is providing the animal with direct and continuing care.

(5) In the other sections of this Act (except section 57(a)(i)), –

- (a) The term “research” means any research work that comes within the term defined by subsection (1); and
- (b) The term “testing” means any testing work that comes within the term defined by subsection (1); and
- (c) The term “teaching” means any teaching that comes within the term defined by subsection (1).

Appendix 6

Animal Usage Report: Five-year summary of the number of animals used and the percentage that died or were euthanased (by species)

	2007		2006		2005		2004		2003	
	No. used	% died or euthanased	No. used	% died or euthanased	No. used	% died or euthanased	No. used	% died or euthanased	No. used	% died or euthanased
Amphibians	272	9	968	10	104	40	10,591	88	1,571	99
Birds	5,907	18	59,404	18	37,000	12	9,611	75	6,108	55
Cats	663	13	757	2	765	12	440	-	459	0.9
Cattle	30,030	2	41,748	2	28,656	1	46,014	1	53,706	1
Deer	4,242	12	8,062	2	2,020	-	3,132	8	5,039	6
Dogs	1,071	-	682	1	697	28	497	3	873	16
Fish	14,218	31	8,804	64	11,593	29	12,365	47	71,993	15
Goats	2,025	0	900	14	717	10	458	-	1,259	9
Guinea pigs	3,374	97	3,041	97	2,392	98	1,814	97	3,138	97
Hamsters	-	-	-	-	-	-	-	-	8	100
Horses/ donkeys	540	1	390	1	609	2	800	2	951	7
Marine mammals	82	-	156	-	1,870	-	3,178	-	5,385	-
Mice	94,714	86	59,936	82	67,699	98	73,413	91	82,912	99
Pigs	1,159	20	807	28	577	95	365	79	219	67
Possums	1,263	79	5,009	50	4,478	96	1,627	87	7,963	34
Rabbits	1,950	92	1,702	97	1,575	95	1,123	95	2,324	95
Rats	20,488	97	17,208	95	17,804	97	17,200	94	19,463	98
Reptiles	345	26	12,118	3	3,231	3	1,576	0.6	363	4
Sheep	62,657	5	94,532	8	79,883	4	60,143	12	51,063	21
Misc. species	1,667	22	2,265	18	1,544	31	1,784	20	6,114	76
Total no. used	246,667		318,489		263,214		246,122		320,911	
Yearly %		48%		31%		40%		48%		44%

Appendix 7

Animal Usage Report: Five-year summary of animal usage (by organisation)

Group	Year	Rats, mice guinea pigs, rabbits	Sheep, cattle, goats	Other domestic animals	Birds	Fish	All other species	Total
Universities	2003	46,266	24,944	4,596	3,188	61,600	6,554	147,148
	2004	37,815	11,014	3,090	2,034	6,735	13,038	73,726
	2005	34,229	20,775	3,377	34,771	8,052	5,018	106,222
	2006	29,484	26,533	7,624	4,938	7,545	9,501	85,625
	2007	38,332	10,939	1,862	4,820	12,166	1,456	69,575
Commercial organisations	2003	29,151	51,071	700	2	–	212	81,136
	2004	24,755	63,689	372	3	–	257	89,076
	2005	39,436	59,021	682	2	–	153	99,294
	2006	32,617	48,346	1,121	26	–	272	82,382
	2007	41,593	45,265	1,407	142	–	261	88,668
Crown research institutes	2003	24,988	29,668	1,731	692	10,243	9,194	76,516
	2004	19,203	31,582	1,432	578	5,504	2,273	60,572
	2005	15,477	29,186	202	2,096	2,248	5,300	54,509
	2006	14,822	60,507	1,180	45,672	1,019	9,476	132,676
	2007	17,980	33,152	3,447	218	1,750	1,178	57,725
Polytechnics	2003	231	343	495	209	150	8	1,436
	2004	139	325	324	24	126	5	943
	2005	107	232	396	44	1,293	9	2,081
	2006	184	501	728	117	240	12	1,782
	2007	261	1,745	882	219	275	18	3,400
Government departments	2003	503	–	12	1,995	–	5,424	7,934
	2004	140	–	–	6,950	–	3,174	10,264
	2005	–	–	–	18	–	741	759
	2006	–	664	–	8,618	–	617	9,899
	2007	143	–	55	454	–	76	728
Other	2003	6,686	2	–	22	–	4	6,714
	2004	11,478	5	7	22	–	7	11,519
	2005	148	4	9	19	–	6	186
	2006	4,644	389	–	18	–	29	5,080
	2007	22,184	3,552	–	54	–	15	25,805
Schools	2003	20	–	–	–	–	–	20
	2004	20	–	–	–	–	2	22
	2005	73	38	2	50	–	–	163
	2006	136	240	45	15	–	609	1,045
	2007	33	59	22	–	27	625	766
TOTAL	2003	107,845	106,028	7,541	6,108	71,993	21,396	320,911
	2004	93,550	106,615	5,225	9,611	12,365	18,756	246,122
	2005	89,470	109,256	4,668	37,000	11,593	11,227	263,214
	2006	81,887	137,180	10,698	59,404	8,804	20,516	318,489
	2007	120,526	94,712	7,675	5,907	14,218	3,629	246,667

Appendix 8

“Purpose of Manipulation” Categories Definition Guidelines for Animal Use Statistics

Category	Definition
Teaching	Animals used for teaching or instruction, at any level.
Species conservation	Work directed towards species conservation. The species to be conserved may or may not be directly involved, e.g. nutrition studies using more common species can benefit an endangered species.
Environmental management	Environmental management, including the control of animal pests.
Animal husbandry	Animal husbandry, including reproduction, nutrition, growth and production.
Basic biological research	Basic biological research.
Medical research	Medical research involving animals, but not research on human subjects.
Veterinary research	Research particularly that aimed at improving the health and welfare of production and companion animals.
Testing	Animals used for public health testing or to ensure the safety, efficacy or quality of products to meet regulatory requirements for human or animal products, either in New Zealand or internationally.
Production of biological agents	Animals used for raising antibodies or the supply of blood products.
Development of alternatives	Work aimed at developing methods to replace or reduce the use of live animals in research, testing and teaching.
Other	Manipulations for purposes other than those listed above.

APPENDIX 9

Animal Usage Report: summary of the species used (by manipulation grading)

Species	No suffering	Little suffering	Moderate suffering	Severe suffering	Very severe suffering	Total
Amphibians	75	174	23	-	-	272
Birds	1,041	4,153	453	200	60	5,907
Cats	219	347	45	-	52	663
Cattle	14,445	15,011	566	-	8	30,030
Deer	2017	1,853	372	-	-	4,242
Dogs	454	617	-	-	-	1,071
Fish	1,433	12,395	390	-	-	14,218
Goats	27	1998	-	-	-	2,025
Guinea pigs	75	1095	-	1,323	881	3,374
Horses/ donkeys	190	350	-	-	-	540
Marine mammals	43	39	-	-	-	82
Mice	1,880	50,481	25,812	1159	15,382	94,714
Pigs	6	1051	100	2	-	1,159
Possoms	145	868	127	76	47	1,263
Rabbits	106	1,759	48	-	37	1,950
Rats	880	14,699	4,384	457	68	20,488
Reptiles	31	240	74	-	-	345
Sheep	11,836	49,163	1,634	-	24	62,657
Misc. species	168	1354	96	-	49	1,667
TOTAL	35,071	157,647	34,124	3,217	16,608	246,667