



Speaking Of Research

National Animal Ethics Advisory Committee

Annual Report 1 January to 31 December 2010

(incorporating statistics collected by MAF under the
Animal Welfare (Records and Statistics) Regulations 1999)

National Animal Ethics Advisory Committee
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New Zealand

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September 2011

NAEAC

National Animal Ethics Advisory Committee

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Mission Statement

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

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1 From the Chair

As Chair of the National Animal Ethics Advisory Committee (NAEAC), I feel very fortunate to have such dedicated, quality people making up the membership, and I would like to start by thanking them all for their contribution to the work of the committee throughout 2010. The integrity of the regulation of the use of animals in research, testing and teaching depends on the level of commitment of all those involved, and it is heartening to see the dedication of those charged with the oversight of what is an effective and internationally respected system.

While there were only two codes of ethical conduct (CECs) to review, the year was anything but quiet. NAEAC took the opportunity to review all its policies and included a number of educational minitutorials within its meetings. Committee members also put in a lot of extra work outside of meetings. The success of the November NAEAC Workshop “*Ethics in Action*” for animal ethics committee (AEC) members is tribute to that, the feedback from participants a measure of the value of such events. The NAEAC Three Rs Award, presented this year to the Department of Natural Sciences at Unitec Institute of Technology for their innovative teaching programme, is another event that involves a lot of work, including the seeking of sponsorship – NAEAC is very grateful to the New Zealand Veterinary Association for sponsoring the 2010 award. The essay competition for school students was another event run by NAEAC this year, and we were pleased with the quality and thoughtfulness of contributions.

NAEAC makes a point of holding one meeting a year outside of Wellington so that we can visit institutions and their AECs in other areas. Part of our role is to provide advice to AEC members and we see it as important to make personal connections in order to facilitate this process. It is also valuable for NAEAC members to increase their understanding of the range of work being undertaken under the AEC system, and to gain an insight into the issues that arise within different institutions. Our venue this year was Hawke’s Bay where we visited two relatively new AECs. The benefits of these visits have encouraged us to offer attendance by NAEAC members at AEC meetings as appropriate, but particularly at those of newly constituted committees.

Once again there will be focus on the MAF statistics for the year. A total of 242 149 animals used in research, testing and teaching were reported in 2010, an 18.5 percent drop over the previous year and down 29.1 percent from 2008 figures. However, the rolling three year average, a truer reflection of animal use because of the way animal statistics are reported, is down only 0.5 percent from 2009 and 2.9 percent from 2008. A 19.3 percent drop in the number of animals experiencing “high” or “very high” impact manipulations over the previous year is always gratifying.

It’s a measure of New Zealand’s agricultural focus that although the most common animal used in RTT in New Zealand remains the mouse, production animals as a group outnumber rodents and rabbits combined. It is interesting that, against the backdrop of numbers of genetically modified animals used in the latest report from the United Kingdom topping 50 percent of the total for the first time, the proportion of genetically modified animals used in New Zealand in 2010 fell to 1.9 percent.

I’d like to give special thanks to Dr Roger Marchant who retired from the committee in October having served an unprecedented seven years. His valuable contribution included membership of the Three Rs award subcommittee. Dr Robert Dempster, nominated by Agcarm, was appointed to fill the vacancy.



And once again, I give thanks to Linda Carsons and Paula Lemow from the MAF Animal Welfare Directorate, for the outstanding service they give to NAEAC. They are an essential and invaluable part of the team.

Virginia Williams
Chair

Speaking Of Research

2 New Zealand Animal Welfare Infrastructure

2.1 The Animal Welfare Act 1999

The use of animals in research, testing and teaching (RTT) in New Zealand is tightly regulated through Part 6 of the Animal Welfare Act. The Act requires that any person using animals in RTT holds an approved code of ethical conduct, works for a person who holds an approved code or has an arrangement to use another person's approved code. In this context, the term "person" includes corporations and bodies of persons whether corporate or unincorporated. Section 88 of the Act specifies the contents of a code of ethical conduct.

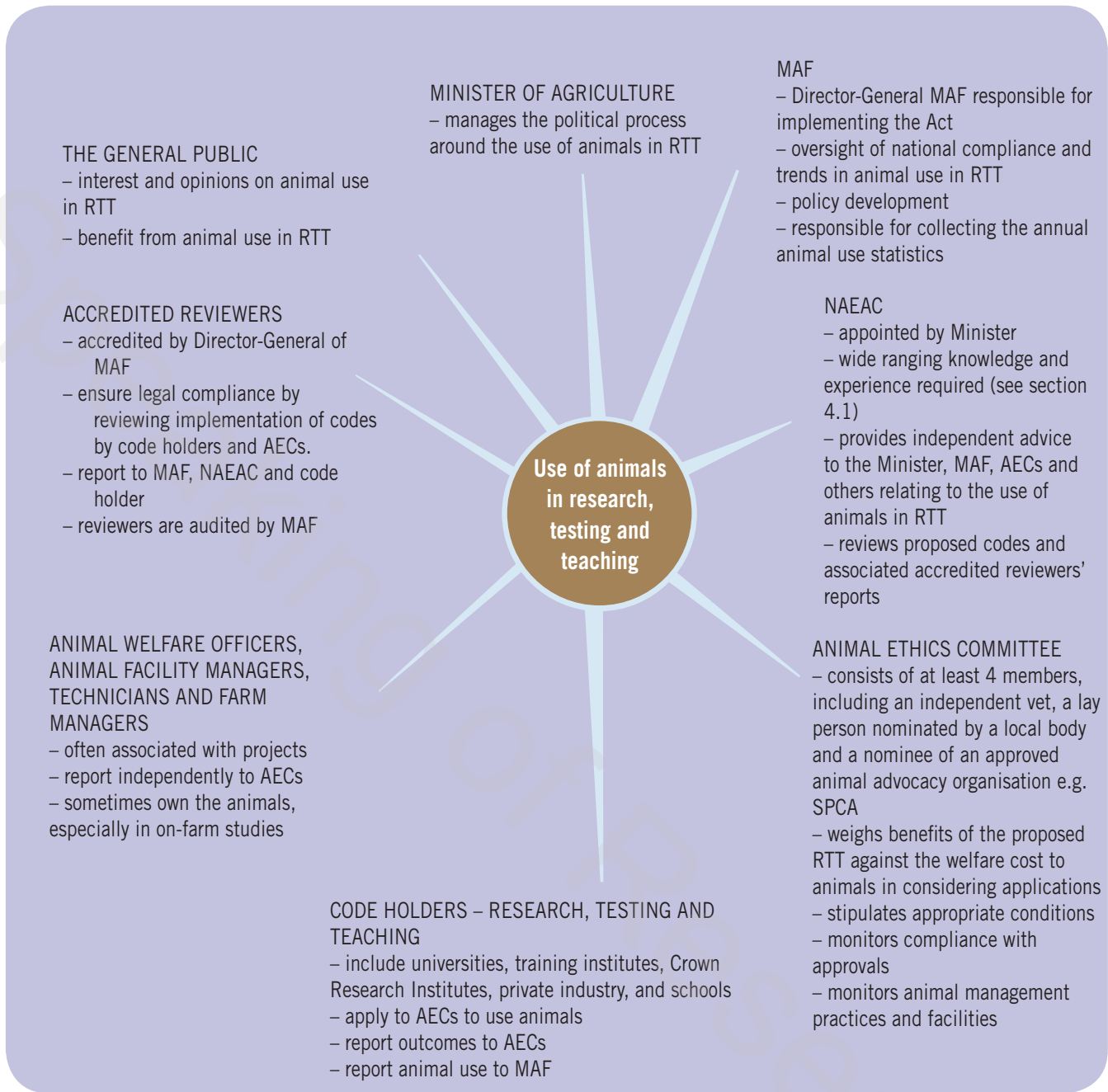
Crucial to the integrity of the regulatory framework is the role of the AECs in approving, modifying, or declining proposals for RTT involving the use of live animals. No project may be carried out without the approval of an AEC. When considering project applications, an AEC must be satisfied that the benefits that arise from using the animals outweigh the likely harm to the animals.

AECs are also responsible for monitoring compliance with the conditions of project approvals and the animal management practices and facilities of the institution. The Act requires that AECs 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 (for example, the SPCA) and a person nominated by a local authority. Sections 98 to 104 of the Act detail the functions and powers of AECs, their procedures and the criteria they must take into account when considering applications.

Code holders and AECs have an independent review undertaken within two years of first obtaining approval of a code, and every five years thereafter (outlined in sections 105 to 108 of the Act). Moreover, the Minister of Agriculture also has the power to commission a review of any code holder and/or AEC if necessary (section 117 of the Animal Welfare Act).

The Director-General of Agriculture and Forestry is responsible for accrediting independent reviewers (section 109) who must, amongst other things, prove that they have the appropriate character and competencies to undertake comprehensive reviews, as set out in sections 110 to 113 of the Act. Any individual may apply to become an accredited reviewer. Accredited reviewers are audited by MAF regularly (clause 9 of schedule 2 of the Animal Welfare Act).

The accompanying diagram illustrates the framework regulating the use of animals in RTT.



2.2 Legal Status of NAEAC

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.

2.3 Infrastructure

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



3 Functions

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;
 - public interest in respect of animals;
 - any other area the Minister considers relevant.

4.2 Members

The table below lists members of the committee during 2010:

Members	Expiry of Appointment
Dr Virginia Williams BVSc, MACVSc, Dip Prof Ethics, Animal Welfare Consultant (Independent Chairperson)	31.10.12
Dr Robert P Dempster MSc, PhD, Dip Bus Studies, Regulatory Affairs & New Product Development Manager, Intervet/Schering-Plough Animal Health Ltd (nominated by Agcarm)	31.10.13
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)	31.10.12
Dr Martin A Kennedy BSc (Hons), PhD, Professor, Department of Pathology, University of Otago, Christchurch (nominated by the Health Research Council of New Zealand)	31.10.13

Dr Peter D Larsen BSc (Hons), PhD, Associate Professor, Department of Surgery and Anaesthesia, University of Otago, Wellington (nominated by the Royal Society of New Zealand)	31.10.12
Dr Roger M Marchant BSc, BVSc, Veterinary Adviser, Intervet/Schering-Plough Animal Health Ltd (nominated by Agcarm)	31.10.10
Mr Peter W Mason BCA, member of the National Council of the Royal New Zealand Society for the Prevention of Cruelty to Animals, member of the International Council of Compassion in World Farming, Vice President of the World Society for the Protection of Animals (nominated by the Royal New Zealand SPCA)	31.10.11
Dr David R Morgan BSc (Hons), MSc, PhD, Scientist (nominated by Landcare Research New Zealand Ltd)	31.10.12
David J M Peart MNZM, JP (nominated by Local Government New Zealand)	31.10.11
Dr Justine H Stewart BVSc, Technical Manager, Auckland Meat Processors	31.10.13

Dr Roger Marchant retired from the committee in October 2010 having served for seven years. The committee wishes to record its appreciation of the contribution Dr Marchant made, particularly as a member of the Three Rs award subcommittee. NAEAC would also like to express its appreciation to Dr Marchant's employer, Intervet/Schering Plough, who waived acceptance of meeting fees in accordance with company policy to act as a good corporate citizen and materially assist public good operations where practicable. Dr Robert Dempster, nominated by Agcarm, was appointed to fill the vacancy. Dr Martin Kennedy and Dr Justine Stewart were reappointed for a further term.

4.3 Secretariat

The Animal Welfare Directorate within MAF continued to provide high quality support to NAEAC during the year. The committee is grateful for the guidance of Linda Carsons who attended meetings as MAF's Principal Adviser. Paula Lemow, the committee's secretary, Dr Kate Littin, Kirsty Grant and Margaret Handscomb all made valuable contributions to the work of the committee.

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 Dave Morgan was elected to fulfil this role in 2010.

4.5 Fees

Government policy requires disclosure of fees paid to members of statutory boards and committees. The daily fee paid to committee members during 2010 was \$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 2010.

Member	Fees paid during 2010 (gross)
V Williams	\$10 725.00
R Dempster ¹	Nil
A Dodds	\$3 800.00
M Kennedy	\$3 000.00
P Larsen	\$3 200.00
R Marchant ¹	Nil
P Mason	\$2 400.00
D Morgan ²	\$2 600.00
D Peart	\$2 600.00
J Stewart	\$3 200.00

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

4.6 Operations

4.6.1 Meetings

NAEAC met four times in 2010.

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's strategic plan, which is reviewed every three years, was last reviewed in 2007. Operational plans are developed each year based on the strategic plan. Progress against the 2010 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 2010, the committee again paid tribute to the excellent support it receives from all the MAF Animal Welfare Directorate staff. Maintaining focus on key stakeholders i.e. the Minister, the Director-General and AECs was seen as extremely important, and out of this came a decision to survey AEC members in 2011 for feedback on the committee's performance.

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.

4.6.5 Policy review

NAEAC undertook a review of all its policies during 2010. A list of current policies can be found in Appendix 4.

Speaking Of Research

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 2010

The table below outlines the applications processed and notifications made during 2009 and 2010.

	2010	2009
Approval of new code	2	9
Notification of arrangement to use existing code	12	10
Approval of amendments to code	1	0
Notification of minor amendments to code	1	2
Termination of notified arrangement to use existing code	5	2
Code revoked	1	0
Code expired and not renewed	0	2
Arrangement to use existing code lapsed	1	2

Code holders wishing to apply for a new code, and those code holders with codes approved in 2005, had mandatory independent reviews completed during 2010 (see section 6.2 for more detail).

During 2010, two new codes were approved. Twelve organisations made arrangements to utilise existing codes and five organisations terminated their arrangements. Organisations that utilise existing codes that expire have 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. Other activities which impact 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 are published regularly in *Welfare Pulse*.

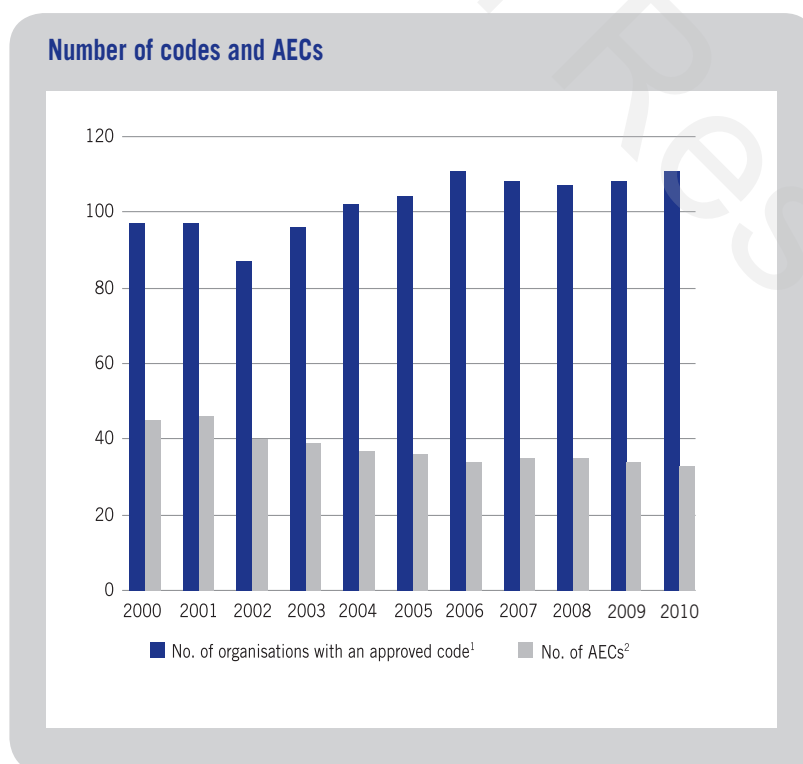
5.3 Approvals in Force

The following table gives details of the number of approvals in force as at 31 December 2009 and 2010.

Number of:	2010	2009
organisations using an approved code	111	108
approvals in force ¹	114	111
organisations with a code	29	30
animal ethics committees established ²	33	34
organisations using another organisation's AEC	82	78

- 1 One organisation has four approvals in force as it uses a different AEC for work in different locations.
- 2 Two organisations each have three animal ethics committees 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 remained relatively steady over the last 5 years – in 2010, as in 2006, the number peaked at 111. The number of AECs to deal with projects from all those organisations – 33 in 2010 – is the lowest since the Animal Welfare Act 1999 came into effect. Changes that have occurred over the last decade are shown graphically below.



- 1 Some organisations may have more than one approval.
- 2 Excludes AECs set up from time to time under the Department of Education code (prior to 2003).

Appendix 1 lists the organisations with an approved code as at 31 December 2010 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 as a result of company/organisational mergers where both parties previously 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.

5.4 Approvals Not Made by AECs

5.4.1 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 (section 85 of the Act).

The Director-General is required to consult NAEAC before exercising the powers under these provisions. Furthermore, the Director-General may not approve such RTT 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.

The Director-General approved no research or testing involving the use of non-human hominids in 2010.

5.4.2 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 Animal Ethics Committee

6.1 Communication with AECs

6.1.1 Visits

NAEAC generally schedules one meeting a year to coincide with visits to code-holding institutions to allow members the opportunity to meet with those involved in RTT and those serving on, or administering, AECs. The May 2010 NAEAC general meeting was held in Napier, which allowed committee members the chance to visit two local institutions with newly established animal ethics committees.

At the Eastern Institute of Technology, a meeting with AEC members was followed by a guided tour of key parts of the Taradale campus. This included the newly installed training suite of the animal care facilities, and the simulated veterinary clinic, used for teaching in the animal care and veterinary nursing programmes. The teaching farm facility, used for practical work in farm management and large animal handling and care, was also visited.

Agrivet Services Ltd in Havelock North had recently established an AEC and meeting with members allowed mutually useful discussion. After the meeting, a visit to the Agrivet trial farm allowed a viewing of current sheep and cattle trials, and inspection of the newly built facilities at the site.

In the evening, a function was held which offered the chance for NAEAC to meet and chat informally with members of a range of AECs in the Hawke's Bay area. NAEAC values the chance to meet with AEC members and is open to invitations to AEC meetings where appropriate.



NAEAC and EIT members outside the teaching farm facility

6.1.2 National workshop for AEC members

The biennial NAEAC workshop, a key feature of the relationship between AECs, MAF and NAEAC, was held in Wellington on Friday 26 November. The workshop provides an opportunity for presentations on matters of interest to those involved in the manipulation of animals for RTT; it assists NAEAC in the development of its operational plan for the period ahead; and above all, it is an occasion for AEC members to share experiences and ideas among themselves. This year's workshop had a theme of "Ethics in Action", with the title reflected in the keynote address by Professor Donald Evans who asked "Are animals our equals?" An innovation for this workshop was a panel discussion, with audience participation, on a series of hypothetical research protocols of increasing animal welfare impact. There were also two workshop sessions on topics of statistics, monitoring, grading of manipulations, ethical impacts of genetic modification, new experimental models, administrative processes for AECs, endemic disease and health monitoring, and animals in teaching.

6.1.3 Newsletters

An innovation this year has been the occasional newsletters to AECs from the NAEAC Chair, with news from NAEAC meetings as well as the committee's responses to queries from AECs on various issues for which clarification is sought. Two such newsletters were sent out during the year.

6.1.4 Welfare Pulse

The MAF publication *Welfare Pulse* was started in 2009, successfully combining a number of smaller existing publications, including *NAEAC News*, and extending the content to ensure all stakeholders are kept informed of key domestic and international animal welfare issues, developments and trends.

Each issue contains items pertaining to NAEAC and RTT activities, and their inclusion in a general welfare magazine ensures a wider audience for information on the use of animals in science.

Three issues of *Welfare Pulse* were published in 2010; issue 4 in March, issue 5 in July and issue 6 in November.



6.1.5 Occasional paper series

NAEAC has an objective of disseminating articles that could be of relevance to those with an interest in RTT, particularly AEC members who may not have access to scientific publications. This is achieved by the publication of "occasional papers".

They include:

- Occasional Paper No. 1 – *Underreporting of the three Rs deployment that occurs during the planning of protocols that preceded their submission to animal ethics committees* (D J Mellor, J C Schofield and V M Williams) 2008, reprinted with permission from the authors and the organisers of the 6th World Congress of Alternatives and Animal Use in Life Sciences;
- Occasional Paper No. 2 – *Regulation of animal use in research, testing and teaching in New Zealand – the black, the white and the grey* (L A Carsons) 2009;
- Occasional Paper No. 3 – *Regulation of animal use in research, testing and teaching: Comparison of New Zealand and European legislation* (N Cross, L A Carsons and A C D Bayvel) 2009;
- Occasional Paper No. 4 – *Compliance monitoring: The University of Auckland approach* (J Stewart) 2009;
- Occasional Paper No. 5 – *Monitoring methods for animal ethics committees* (D Morgan). This had its origins in a paper presented to ANZCCART's 2009 conference in Australia, and was the only Occasional Paper published in 2010.

The occasional papers are available from the MAF website: <http://www.biosecurity.govt.nz/regs/animal-welfare/naeac/occasional-paper>

6.1.6 Conference and workshops

Each year various NAEAC members, or members of the secretariat, attend conferences or workshops of relevance to the committee's work. Invited papers were presented at several of these conferences. 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 2010 were as follows:

- Trans-Tasman Animal Welfare Committee, Launceston, Australia, February;
- Animal Behaviour and Welfare Consultative Committee, March and October;
- OIE (World Organisation for Animal Health) General Session, Paris, France, May;
- European Commission/New Zealand Animal Welfare Co-Operation Forum, Brussels, Belgium, May;
- Society for the Prevention of Cruelty to Animals (SPCA) Annual Conference, Rotorua, New Zealand, May;
- Australia New Zealand Pan Pacific Veterinary Conference, Brisbane, Australia, May;
- 9th Meeting of the OIE Animal Welfare Working Group, Paris, France, June;
- Australian and New Zealand Council for the Care of Animals in Research and Teaching (ANZCCART) Annual Conference, Hobart, Australia, July;
- Australian College of Veterinary Scientists - College Science Week, Brisbane, Australia, July;
- Trans-Tasman Animal Welfare Committee, Darwin, Australia, September;
- 1st International Transdisciplinary Congress on Fauna Protection, Goiana, Brazil, October.

6.1.7 Reference material for code holders and AECs

The resource package of published material collated by NAEAC for AEC members is reviewed and updated annually. It is available through the MAF website: <http://www.biosecurity.govt.nz/regs/animal-welfare/pubs/animals-used-in-research#4>

The list of contents includes:

- Chairperson letter;
- Guide to Part 6 of the Animal Welfare Act;
- A Culture of Care;
- Good Practice Guide for the Use of Animals in RTT;
- NAEAC Occasional Papers;
- Animal Use Statistics – Guidance for Completing Statistical Returns;

- Animal Research has benefits for us all – and for animals too;
- The Three Rs: Past, Present and Future;
- The Role and Evolution of Independent Government Advisory Committees;
- A Guide for Lay Members of AECs;
- *Welfare Pulse*.

6.2 Independent Reviews of AECs

The Animal Welfare Act 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 5). A teleconference including NAEAC members, MAF staff and independent reviewers was held in April to identify any points arising from reviews in the previous year. Reviewers reported that, with many institutions undergoing their second audits, they were not finding the same number of problems as during the first round of reviews.

During 2010, one expiry review and one follow-up review were carried out. Approval was granted to one organisation for a proposed change in their code of ethical conduct.

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 or not the code holder has achieved a satisfactory degree of compliance with the code and, if not, to determine what steps 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 Three Rs Award

The NAEAC Three Rs Award is a national award made to an individual, group or institution that epitomises best practice 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.

The 2010 award, sponsored by the New Zealand Veterinary Association, was presented to the teaching team in the Department of Natural Sciences, Unitec Institute of Technology, in recognition of their consistent and deliberate adherence to Three Rs principles and the embodiment of them into their teaching programmes and practices. The department has developed a dedicated simulation suite – with specially designed models and mannequins – that allows students to practise their skills without the requirement for access to real animals until later stages in their training. This has allowed the team to substantially improve student training and ethical awareness, as well as reduce and replace animal use in teaching. This was the first time the award has been presented for application of the Three Rs in teaching.



Professor Natalie Waran of Unitec is presented with the NAEAC Three Rs Award by Julie Hood, CEO of the New Zealand Veterinary Association, which sponsored the 2010 award



Intubation techniques are demonstrated on a model

7.2 NAEAC AEC Service Awards

AECs can nominate committee members for NAEAC AEC Service Awards in recognition of meritorious service for at least five years. Two such awards were given out during 2010.

7.3 School Essay Competition

NAEAC invited Year 11, 12 and 13 students to write an essay between 1200 and 1500 words that demonstrated an understanding of animal-based research in New Zealand. Students were asked to provide examples of why animals are used and how their use is regulated and controlled. A wide range of original essays were submitted from around the country, and the winning essay was published in *Welfare Pulse*. In addition, the essays written by both the winner and runner up are to be published in *ANZCCART News* in 2011.

7.4 NAEAC Research Priorities

NAEAC, in consultation with AECs, has developed a draft list of research priorities aimed at promoting research in New Zealand into the Three Rs: replacement, reduction, and refinement. During 2009 this list was conveyed to funding bodies to provide guidance in the formulation of research funding strategies and consideration of funding proposals. NAEAC's research priorities, with their alignment with Three Rs principles and emphasis on ethical expectations, met with support from funding bodies.

The research area most widely considered to be a priority was the development of humane endpoints for animals used in research and testing. Other priorities identified include:

- under the heading of *replacement*, the validation of alternatives to animal use in regulatory testing, and the development of non-animal methods for producing antibodies;
- under the heading of *reduction* of animal use, the examination of opportunities for sharing excess animals/tissues;
- under the heading of *refinement*,
 - the need for understanding environmental enrichment for laboratory animals;
 - improved animal husbandry;
 - monitoring for pain and suffering;
 - humane methods for euthanasia of laboratory animals;
 - the development of humane pest control procedures.

During 2010, a national survey, commissioned by MAF on behalf of NAEAC, asked for information from AECs on the feasibility of a potential national tissue sharing model which might facilitate the wider use of animal tissue sharing in New Zealand. The survey identified two regional tissue sharing models for evaluation: an ad-hoc informal system and an online subscription database. This work is ongoing.

NAEAC will continue to monitor the performance of funding bodies in giving effect to the research priorities set out above.

7.5 Suggested Amendments to the Animal Welfare Act

With a review of the Animal Welfare Act 1999 proposed for 2011-12, NAEAC began the process of identifying issues which it felt could be clarified or improved by changes to the 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.

7.6 Public Awareness of the Regulatory System and RTT

Advocacy for the value of animal use in RTT is a role principally for those who benefit from such RTT. NAEAC, for its part, seeks to provide assurance to the public of the integrity of the regulatory framework underpinning the use of animals in RTT. Attitudinal research, funded by MAF and undertaken in 2005 has been reported in previous annual reports. This research highlighted the lack of awareness amongst the general public of regulations surrounding this issue. NAEAC has regular discussion with MAF Communications staff on opportunities to increase public awareness of Part 6 of the Animal Welfare Act.

7.7 NAEAC's Commitment to the Three Rs

The principles of the Three Rs i.e. the reduction, refinement and replacement of the use of animals in life sciences, are the foundation of Part 6 of the Act and, as this report shows, play a prominent part in almost all that NAEAC does.

A significant aspect of NAEAC's activity is its support for MAF, the New Zealand Food Safety Authority (NZFSA) and the New Zealand scientific community in their efforts to have the Three Rs embodied in international practices in the use of animals for regulatory testing. New Zealand's representatives continue to promote international harmonisation of the use of animals in regulatory testing in various intergovernmental forums under the auspices of the OIE.

New Zealand has a notable record of innovation in this area, for example in the replacement of testing that involves animals by *in vitro* testing and in new techniques for pain relief. (Such important developments have been acknowledged over the years by the NAEAC Three Rs Award (see section 7.1). The validation of alternatives to the use of animals, particularly in testing, continues, however, to be a slow process. NAEAC has, nonetheless, been encouraged by the conclusions of the 7th World Congress on the Use of Animals and Alternatives in the Life Sciences held in Rome in September 2009 and attended by a New Zealand delegation including the present chair of NAEAC. This widely representative forum, after examining developments in alternatives to the use of animals, concluded:

“Within the next decade this approach will result in an unprecedented decrease in the use of experimental animals. It is considered the start of a worldwide process in regulatory safety testing which will likely make the use of experimental animals for safety testing totally redundant within 20 years from today.”²

NAEAC continues to liaise with and support the New Zealand Three Rs Programme, a joint venture between Massey University and MAF. The programme is located at Massey and operates within the Animal Welfare Science and Bioethics Centre (AWSBC). The purposes of the programme are to:

- profile New Zealand's continuing Three Rs contribution;
- promote understanding, application and development of the Three Rs;
- monitor and liaise with other Three Rs centres internationally to ensure that New Zealand keeps abreast of major advances in the field;
- critically assess Three Rs developments nationally and internationally.

7.8 Minitutorials

In order to keep members up to date with relevant issues and to ensure good committee processes, NAEAC includes mini-tutorials at meetings whenever time permits. During 2010, these included:

- a presentation on the MAF decision-making framework;
- a discussion on whether Institutional Drug Administration Orders should or should not fall under AEC jurisdiction;
- a discussion on awareness within AECs of the potential impact endemic illness in animal colonies could have on research results. Subsequently, this was raised as a topic during the NAEAC workshop.

² Press release 'Milestone animal welfare achievements at the World Congress on the Use of Animals and Alternatives in the Life Sciences', Rome, Italy, 3 September 2009

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 closely with the Australian and New Zealand Council for the Care of Animals in Research and Testing (ANZCCART). Both organisations have an interest in promoting the awareness of regulatory requirements surrounding the use of animals in RTT, particularly in the education sector. The Royal Society CEO and the ANZCCART Executive Officer attended part of NAEAC's August meeting, and NAEAC and ANZCCART held a joint meeting in November 2010.

8 Statistics

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 28 February 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). Hence annual animal usage detailed below reflects the numbers of animals used in studies that were completed during the year and reported to MAF.

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

NAEAC, while not responsible for the collection or publication of the statistics, takes an active involvement in their integrity.

8.1 Summary of 2010 Animal Use Statistics

A total of 242 149³ animals used in research, testing and teaching were reported in 2010, an 18.5 percent drop over the previous year. The rolling 3-year average was also marginally down.

The most commonly reported species were (in order) mice, sheep, cattle and fish. In terms of species groupings, production animals (cattle, sheep, deer, goats and pigs) made up 45.0 percent of the total, with rodents and rabbits together accounting for 41.3 percent. Numbers of all species reported declined except for cattle, sheep, deer, dogs and horses.

Animal husbandry research was the main reason for using production animals, accounting for 42 320 animals (38.8 percent of the total for these species). Another 16.4 percent were used in basic biological research, and 13 percent in veterinary research. Just over 84 percent of the rodents were used in testing the safety and efficacy of animal health products, medical research, and basic biological research. Seventy-eight percent of fish were used for basic biological research, and another 9.8 percent for research into environmental management.

Against the trend in other countries, the proportion of genetically modified animals used in 2010 fell to 1.9 percent. Normal/conventional animals made up 89.7 percent of the total.

Nearly 57 percent of animals returned to their normal environment following their use in manipulations. However, 94 percent of rabbits and rodents are “dead or euthanased” following manipulation.

There was a 19.3 percent drop in the number of animals experiencing “high” or “very high” impact manipulations over the previous year. The species that experienced a “very high” impact were mice, guinea pigs and pest species.

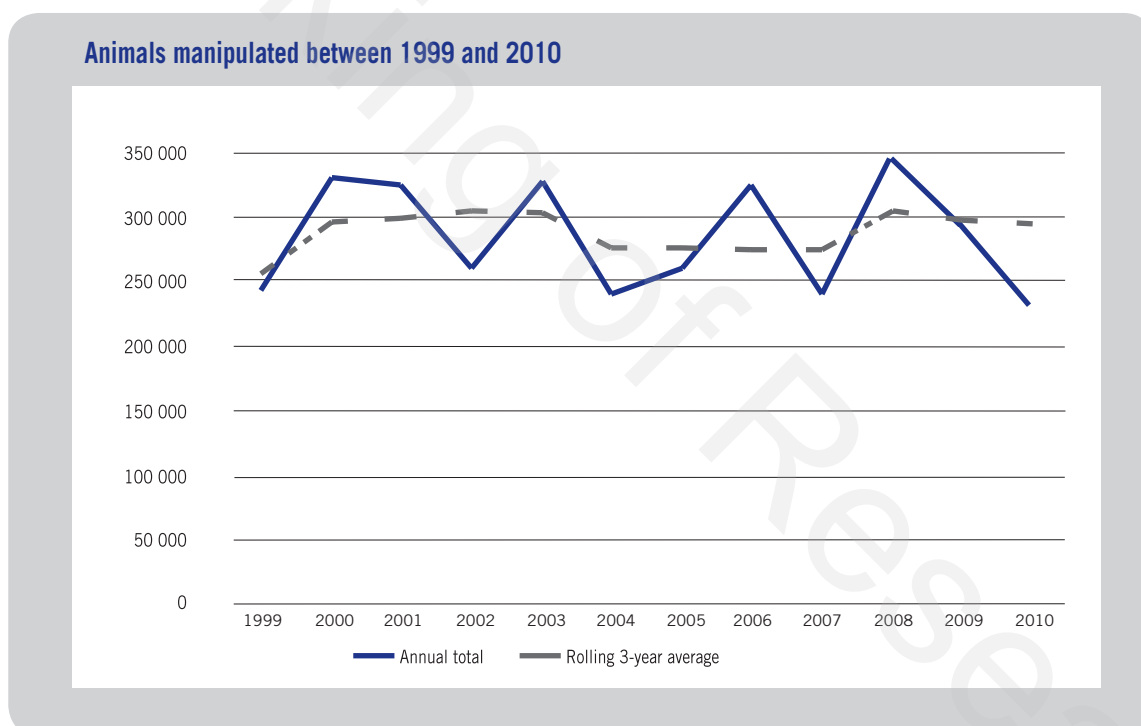
³ While this is the number of animals reported to MAF, one institution with an office in Christchurch was unable to access its records in time to be included in this report because of the earthquake. However, their best estimate of numbers was 50, which would have little effect overall on this report. If available, these animals will be included in the 2011 report.

8.2 Animal Usage

During 2010 a total of 242 149 animals⁴ were reported as manipulated⁵ in research, testing and teaching⁶. This is the lowest number reported in any one year under the Animal Welfare Act 1999, and is a reduction of 18.5 percent compared to 2009, when 297 111 animals were reported.

Much of the annual variability in the statistics can be attributed to the three-yearly cycle of reporting of long-term projects. 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. In 2008, a number of studies that used large numbers of animals in each of four species were reported by several institutions, and these data had a major impact on the overall figures. It might be expected that in 2011 there will also be a number of long-term studies reported, in which case the numbers may rise again.

To illustrate the influence of the three-yearly reporting cycle, the accompanying graph shows the rolling three-year average compared with the annual totals. Between 2000 and 2003 the rolling average was around 300 000 (294 801 to 302 221), between 2004 and 2007 it was nearer 275 000 (275 942 to 276 906). The 2008 to 2010 rolling averages are similar to the early 2000s, at around 300 000.



Those species most commonly reported in 2010 were (in order) mice, sheep, cattle and fish, which collectively accounted for 81.9 percent of the total animals manipulated for RTT. Mice, sheep and cattle have all been included in the four most commonly used animals since 1989. After being replaced by birds in 2009, fish are again one of the four most commonly used animals in 2010.

Five species were used in larger numbers than in the previous year. The biggest increase was reported for cattle (+ 17 578), a 71 percent rise. The other four species with higher numbers were sheep (+11 419), deer (+3127), horses/donkeys (+ 131) and dogs (+ 124). This equates to a 24.8 percent, 52.4 percent, 18.5 percent and 18.0 percent rise for those species respectively. For all other species, the numbers declined. The largest decrease was recorded in the number of birds (-41 531), an 84.7 percent decline. Other species to show reductions in overall usage were reptiles (-5736, a 77.3 percent decrease), possums (-3574, a 74.5 percent decrease), marine mammals (-439, a 67.4 percent decrease), amphibia (-1567, a 65.9

⁴ As defined in section 2(1) of the Animal Welfare Act 1999. This definition is set out in Appendix 6 of this report.

⁵ As defined in section 3 of the Animal Welfare Act. 1999 This definition is set out in Appendix 6 of this report.

⁶ As defined in section 5 of the Animal Welfare Act. 1999 This definition is set out in Appendix 6 of this report.

percent decrease), goats (-2070, a 64.1 percent decrease), cats (-578, a 51 percent decrease), pigs (-482, a 48.4 percent decrease), guinea pigs (-1745, a 43 percent decrease), rats (-6167, a 35.6 percent decrease), fish (-8125, a 34.2 percent decrease), rabbits (-172, an 8.5 percent decrease) and mice (-6362, a 7 percent decrease). See Appendix 7 for further detail.

Overall, the use of agricultural livestock increased by 34.6 percent (+28 021) although in the previous year it had decreased by 46.9 percent. The majority of this year's increase can be attributed to the reporting at project end of more cattle for animal husbandry research (+14 339) and testing (+2813), and to more sheep used for animal husbandry (+14 368), basic biological research (+3551) and production of biological agents (+4064).

Rodent use fell by 12.7 percent (-14 274), mainly due to decreased use in veterinary research (-17 150), testing (-7522) and environmental management (-2182). This was offset to some extent by increased mouse numbers for medical research (+4759) and the production of biological agents (+10 615).

While fish were the fourth most common species reported in 2010, their numbers still declined over 2009 figures by 8125. Seventy-eight percent of the fish were used for basic biological research, compared to 39.0 percent in the previous year, and a further 9.8 percent for environmental management, compared to 23.3 percent in 2009.

The steep decline in the number of birds manipulated for RTT reflects the large long-term study reported in 2009 where nearly 37 500 fertile, germ-free chicken eggs were imported to investigate suspected cases of exotic avian disease and for ongoing surveillance for avian influenza and other pathogens in wild bird species. Only 24 birds were used for testing during 2010. There was also a decrease of 5540 birds used in veterinary research and 1189 for teaching purposes.

The large decrease in reptile use was largely attributed to a 92.4 percent drop in the numbers used for species conservation. For possums, a 90.6 percent drop in numbers for environmental management and a 68.4 percent drop for basic biological research contributed to the relatively low numbers used in 2010. Five hundred fewer marine mammals and 663 fewer amphibia were used for species conservation research.

In 2010, 883 animals were reported in the "miscellaneous species" category, down from 1281 in 2009. They included 56 mustelids (stoats, ferrets and weasels) and 264 wallabies for environmental management; 472 bats for species conservation; 14 rhinoceroses for species conservation (a study in Africa); 10 alpaca for basic biological research and 61 for teaching; and 6 chinchillas for teaching purposes.

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.

8.3 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	2010	2009
	%	%
Breeding units	41.3	35.9
Farms	38.6	22.7
Captured	9.6	18.5
Commercial sources	6.1	4.7
Born during project	2.7	4.6
Public sources	1.4	1.0
Imported	0.2	12.8

The number of animals sourced from farms in 2010 increased by 26 192 animals, or 38.9 percent, reflecting the higher cattle and sheep numbers, largely for animal husbandry research. More animals were also sourced from commercial (+6.1 percent) and public sources (+21.8 percent). The number of animals imported fell from nearly 37 911 to 512 in 2010. The higher numbers in 2009 included the 37 500 fertile, germ-free chicken eggs imported for disease surveillance. The number of animals captured for research fell by 57.7 percent, including 6914 fewer cephalopods/crustaceans, 1207 fewer amphibia, 5231 fewer birds, 5172 fewer rodents, 3507 fewer fish and 2984 fewer possums.

As might be expected, 97.7 percent of rodents (used by 31 organisations) and 91.5 percent of rabbits (used by 17 organisations) came from breeding units, and together accounted for 97.5 percent of all animals from that source in 2010. Rodents were also born during projects (0.9 percent), imported (0.5 percent), obtained from commercial sources (0.3 percent), captured (0.3 percent) and obtained from public sources (0.2 percent).

In 2010, 94.6 percent of farm animals were sourced from farms or commercial organisations, with a further 4.5 percent - mostly sheep - born during projects, a drop of 2773 from the previous year. Farm animals, which were used by 46 organisations or individuals (hereafter referred to as organisations), were also sourced from breeding units (0.7 percent) and public sources (0.2 percent).

The majority of fish, used by 13 organisations, were captured (77.7 percent), with others obtained from breeding units (2.6 percent), commercial organisations (3.9 percent), farms (12.6 percent), born during projects (2.2 percent) and public sources (0.9 percent). All the marine mammals (used by 4 organisations) were captured.

The amphibia (used by four organisations), cephalopods/crustaceans (six organisations), possums (six organisations), and reptiles (seven organisations) were mostly captured. Cats (used by 15 organisations) and dogs (14 organisations) were mostly obtained from breeding units or public sources. Horses were used by a total of 12 organisations and mostly supplied from farms and public sources.

8.4 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	2010 %	2009 %
Normal/conventional	89.7	77.3
SPF/germ-free	4.2	4.6
Protected species	2.4	2.0
Transgenic/chimera	1.9	2.4
Diseased	1.0	0.7
Unborn/pre-hatched	0.4	12.9
Other	0.4	<0.05

The majority (89.7 percent) of animals manipulated in RTT in New Zealand are classified as normal, healthy, conventional animals. In 2010, although the number of animals in this category was 12 562 fewer than in 2009, the proportion of animals classed as normal/conventional rose by 12.4 percent.

The large drop from 2009 in the numbers of animals in the unborn/pre-hatched category (-37 251) can be explained by the 37 500 fertile, germ-free chicken eggs imported to investigate suspected cases of exotic avian disease and for ongoing surveillance for avian influenza and other pathogens in wild bird species reported in that year.

Fewer animals manipulated for RTT had a specific pathogen-free (SPF) or germ-free status than in 2009. Most of these animals were rodents (96.8 percent), but also included 324 possums and seven sheep.

The use of transgenic animals decreased from 7221 in 2009 to 4534 in 2010 and was made up of mice (96.3 percent) and fish.

A similar number of animals with protected species status were manipulated in 2009 and 2010 (5813 cf 5803). Protected birds (2938), reptiles (1682), bats (472), amphibia (406), fish (162), and marine mammals (129) were manipulated for RTT in 2010. Fourteen rhinoceroses (in a research project in Africa) were also manipulated.

Sheep (2304) made up 96.8 percent of the animals used with a “diseased”⁷ status. Dogs (27), cats (25), cattle (20) and birds (5) made up the difference.

8.5 Outcome

Appendix 7 shows the five-year summary of the animals used (by species) and the percentages that died or were euthanased during, or after, manipulations. 56.7 percent of animals remained alive after use, with 9.2 percent retained by the institution, 33.2 percent returned to owners, 9.2 percent released to the wild and 5.1 percent disposed of to others.

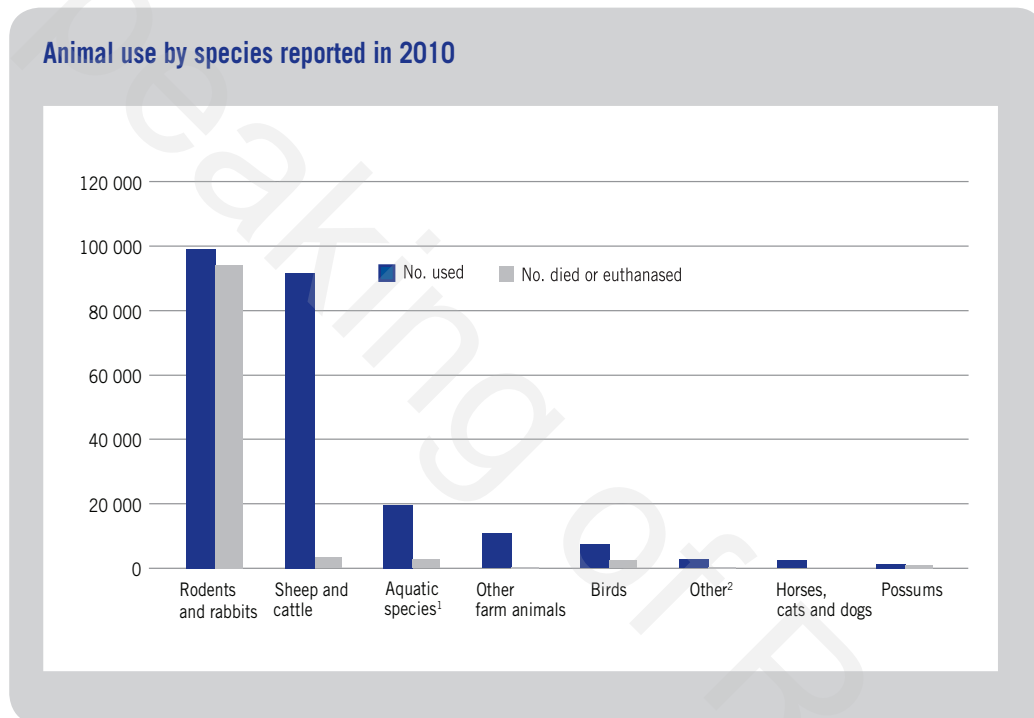
Forty-three per cent of animals died or were euthanased during, or after, manipulations, compared to 55 percent the previous year, a drop of 58 195 over the 162 886 animal in this category in 2009. However,

⁷ Animals afflicted with naturally occurring disease, the focus of study usually being the cause, effects, cure or prevention of the disease.

the 2009 figures included the nearly 37 500 eggs used in surveillance research. Other notable changes included decreases in the number of fish (-8488), possums (-2089), and sheep (-1537) that were killed as part of RTT.

The high survival rates (96.3 percent) for livestock reflect the number of trials of low invasiveness that take place while the animals remained in their normal farm environment and continued as part of the herd/flock at the conclusion of the trial.

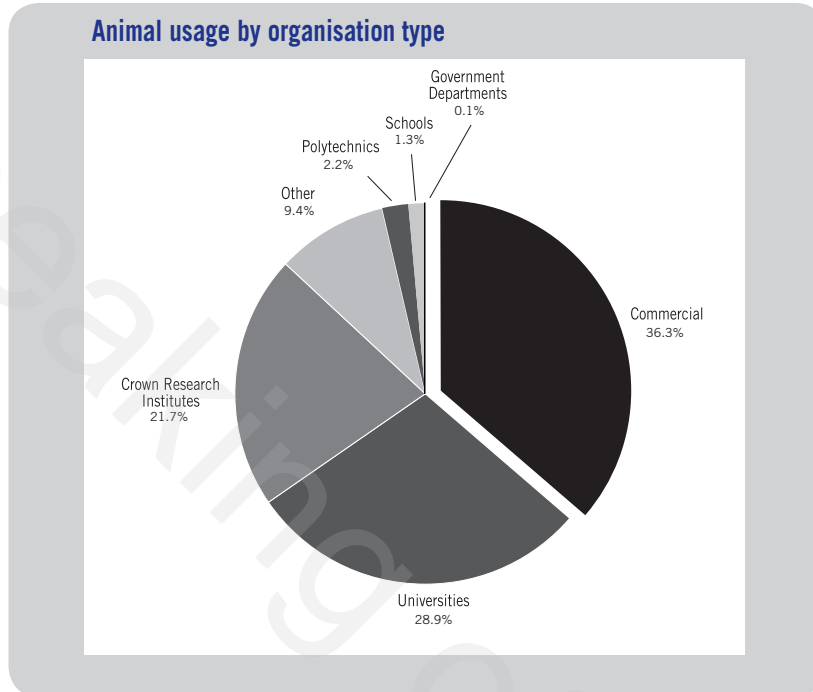
The following histogram shows information on the proportion of animals that died or were euthanased for the major groups of species.



- 1 "Aquatic species" includes amphibia, fish, marine mammals and cephalopods/crustaceans.
- 2 "Other" includes reptiles and miscellaneous species as described in section 8.2.

8.6 Organisation Type

Appendix 8 tabulates animal usage by organisation type over the past five years. The pie chart below shows the 2010 information graphically. The top three user groups in 2010 were (in order) commercial organisations, universities and CRIs, the same as in 2009.



Although commercial organisations used 16 712 fewer animals than in 2009, the proportion of total animals used by these organisations rose slightly to 36.6 percent. Commercial organisations used more animals in production of biological agents (+17 264) and animal husbandry research (+3725) in 2010. Fewer animals were manipulated for veterinary research (-27 571) by these organisations and the number of animals used for teaching (-3079) also declined. No animals were used by commercial organisations in species conservation research in 2010.

Universities reported 8646 fewer animals in 2010. More animals were used for testing (+7962), veterinary research (+4901), basic biological research (+4000), animal husbandry (+2621) and medical research (+1945). The reduction in animal numbers used by universities was largely due to a decrease of 17 970 animals used for teaching. There were also 6434 fewer animals used in species conservation and 5533 fewer for environmental management.

CRIs' animal use fell slightly to 52 526 animals in 2010, compared to 55 335 in 2009 and 57 582 in 2008. An increase in the number of animals used for animal husbandry research of 22 147 was offset by decreases for veterinary research (-14 499), testing (-6500) and environmental management (-3198).

Government departments reported the use of only 290 animals in 2010, compared to 43 266 in 2009, most of which were used for testing, specifically, for investigation and surveillance of exotic avian diseases. This year's animals were used for species conservation (36.6 percent), environmental management (34.8 percent) and basic biological research (28.6 percent).

Organisations in the "other" category include non-university medical research institutes, zoos/wildlife parks and individuals. In 2010, 22 843 animals were reported from this sector, a rise of nearly 125 percent. The major increase was in the number of rodents (+10 376) used for medical research and fish (+1268) for basic biological research.

Polytechnics and institutes of technology reported a 15.5 percent increase (+708) in the number of animals manipulated in 2010 compared with 2009. The wide varieties of animals manipulated by this sector were nearly all (95.9 percent) used for teaching, usually for low impact animal husbandry / veterinary nursing or similar training. Small numbers of animals were used for species conservation and animal husbandry research.

The use of animals in RTT in schools rose sharply from 473 reported in 2009 to 3254 in 2010, mainly due to studies involving the collection and subsequent release of 2842 crabs. The wide range of animals, including amphibia, cats, cattle, cephalopods/crustaceans, dogs, fish, chickens and other birds, horses, rodents, rabbits, and sheep, were all used for teaching purposes.

8.7 Animal Reuse

In 2010, 6.6 percent of animals were used more than once for RTT. There has consistently been between 4 percent and 8 percent of animals re-used in RTT since 2002. Domestic animals (including livestock) made up 89.8 percent of the animals that were reused. With the exception of cephalopods/crustaceans, a small number of every animal species were reported as being used more than once in 2010.

8.8 Purpose of Manipulation

Organisations are required to provide information on the purpose of manipulations (in broad categories). The table below shows the breakdown and compares the 2010 figures with those reported in 2009. Descriptions of the “purpose of manipulation” categories are outlined in Appendix 9. “Purpose of manipulation” categories are outlined in Appendix 9.

Purpose of manipulation	% of animals used	
	2010	2009
Basic biological research	20.6	14.9
Testing	19.6	27.7
Animal husbandry	17.7	4.8
Medical research	14.8	10.6
Production of biological agents	9.3	2.0
Veterinary research	7.8	20.0
Teaching	6.7	11.6
Species conservation	1.9	4.2
Environmental management	1.1	3.8
Other	0.4	0.4
Development of alternatives	0.0	0.0

The highest proportion of animals were manipulated for basic biological research in 2010, with numbers increasing from 44 200 in 2009 to 49 901. While the number of rodents manipulated in this category

remained fairly constant, there was an increase in numbers of farm animals (+4571, mostly sheep and cattle), fish (+2915) and birds (+1646). The number of possums decreased (-1695), as did that of cats (-220). No dogs were manipulated in this category in 2010 compared to 113 in 2009. Universities (54.6 percent), CRIs (38.8 percent), commercial organisations (3.3 percent), “other” organisations (3.2 percent) and government departments (0.2 percent) conducted this research.

The number of animals manipulated for the purposes of testing decreased from 82 368 reported in 2009 to 47 580 in 2010. The decrease can largely be attributed to a fall in the number of birds to 24 from 37 440 (chicken eggs imported to investigate suspected cases of exotic avian disease and surveillance for avian influenza and other pathogens in wild bird species). There was also a drop in the numbers of rodents (-7522) reported in the testing category in 2010. Conversely, more farm animals (+10 419) were manipulated for testing than in 2009, accounting for 26.3 percent of animals in this category. Rabbits and rodents accounted for 72.7 percent of the animals used in this category. Other animals used for testing included fish (427), cephalopod/crustacean (32) and dogs (6). Commercial organisations (80.1 percent), universities (17.0 percent), CRIs (2.8 percent) and “other” organisations (<0.1 percent) reported manipulating animals for testing purposes in 2010.

Animal husbandry manipulations rose from 14 218 animals in 2009 to 42 831 animals in 2010. This was largely made up of farm animals including 21 276 sheep, 18 137 cattle, 2628 deer, 143 goats and 136 pigs. Other species reported in 2010 as manipulated for animal husbandry include fish (272), cephalopod/crustacean (80), horses (59), mice (56), dogs (29), rats (6) birds (4), guinea pigs (3) and rabbits (2). CRIs (66.5 percent), commercial organisations (25.4 percent), universities (7.9 percent) and polytechnics (0.3 percent) reported manipulating animals for animal husbandry purposes in 2010.

The number of animals reported as being manipulated for medical research rose from 31 388 in 2009 to 35 823 in 2010. Rabbits and rodents made up 93.7 percent of the total, with an increase in numbers of 2681 over 2009. Other animals manipulated in this category included 1380 farm animals, 700 chickens, 88 dogs, 52 fish and 30 possums.

Medical research was undertaken by “other” organisations (56.0 percent), universities (39.7 percent), commercial organisations (4.3 percent) and CRIs (<0.1 percent).

The number of animals reported utilised in the production of biological agents rose from 5923 in 2009 to 22 556 in 2010, mainly due to increases in the use of rodents (+10 527) and farm animals (+5543). Much of the increase in rodents was due to the initiation of a programme of revalidating the reagents used in batch release testing of animal vaccines. Other animals used for the production of biological agents included horses (449) and rabbits (439). Commercial organisations carried out 99.8 percent of this work.

Veterinary research utilised fewer animals in 2010 than reported in 2009 (18 849 cf 59 371 respectively). The biggest changes were reported in farm animals (-18 481), rodents (-17 150) and birds (-5540). Farm animals and other domestic mammals made up 78.3 percent of animals used in this category. Veterinary research was undertaken by commercial organisations (46.8 percent), universities (39.8 percent) CRIs (7.2 percent), and “other” organisations (6.1 percent).

The number of animals used in teaching dropped by over 50 percent to 16 303 in 2010 compared to 34 374 in 2009. This was mainly due to falls in the number of cephalopod/crustacean (9300 to 2879) and fish (8296 to 721). All species except marine mammals were used for teaching purposes. Teaching was spread between polytechnics (31.0 percent), universities (25.3 percent) schools (20.0 percent) and commercial organisations (23.2 percent), with CRIs making up the last 0.5 percent.

Animal numbers reported for species conservation in 2010 dropped by 63.9 percent to 4532. Numbers for reptiles (-6617), amphibia (-663) and marine mammals (-500) all fell. Birds (2181), bats (472), fish

(301), rats (190), and other mammals (64) were also manipulated for species conservation purposes. The majority of work in this area was undertaken by universities (70.7 percent) and CRIs (24.9 percent) with the remainder of animals used for this purpose by government departments (2.3 percent) and polytechnics (2.1 percent).

Environmental management research used 75.8 percent fewer animals in 2010 (2757 cf 11 396 in 2009). Although fish remain the most common species used for this purpose (55.3 percent), their numbers fell by 4015 to 1524. Numbers also decreased for rodents (172 cf 2354), possums (197 cf 2089), sheep (37 cf 568) and amphibia (0 cf 315). Cattle (294), wallabies (264), reptiles (80), birds (65), ferrets (47), marine mammals (40), deer (20), weasels (8), cats (8) and a single stoat make up the difference. Universities (61.1 percent), CRIs (20.6 percent), commercial organisations (14.7 percent) and government departments (3.7 percent) all undertook environmental research.

No animals were reported as being used in research aimed at developing methods to replace or reduce the use of live animals in research, testing and teaching in 2010.

8.9 Grading of Animal Manipulations

Animal manipulations are graded according to a five point scale as specified in the Animal Welfare (Records and Statistics) Regulations. The name and description of the scale was changed in 2008 to better reflect the overall estimate of the impact or invasiveness of each animal use. The five grades are:

- “no impact or virtually no impact” – manipulations that causes no stress or pain or virtually no stress or pain;
- “little impact” – manipulations of minor impact and short duration;
- “moderate impact” – manipulations of minor impact and long duration or moderate impact and short duration;
- “high impact” – manipulations of moderate impact and long duration or high impact and short duration;
- “very high impact” – manipulations of high impact and long duration.

A more comprehensive description of the grading system has been published in the MAF publication *Animal Use Statistics* and is available on the website <http://www.biosecurity.govt.nz/regs/animal-welfare/pubs/animals-used-in-research#3>.

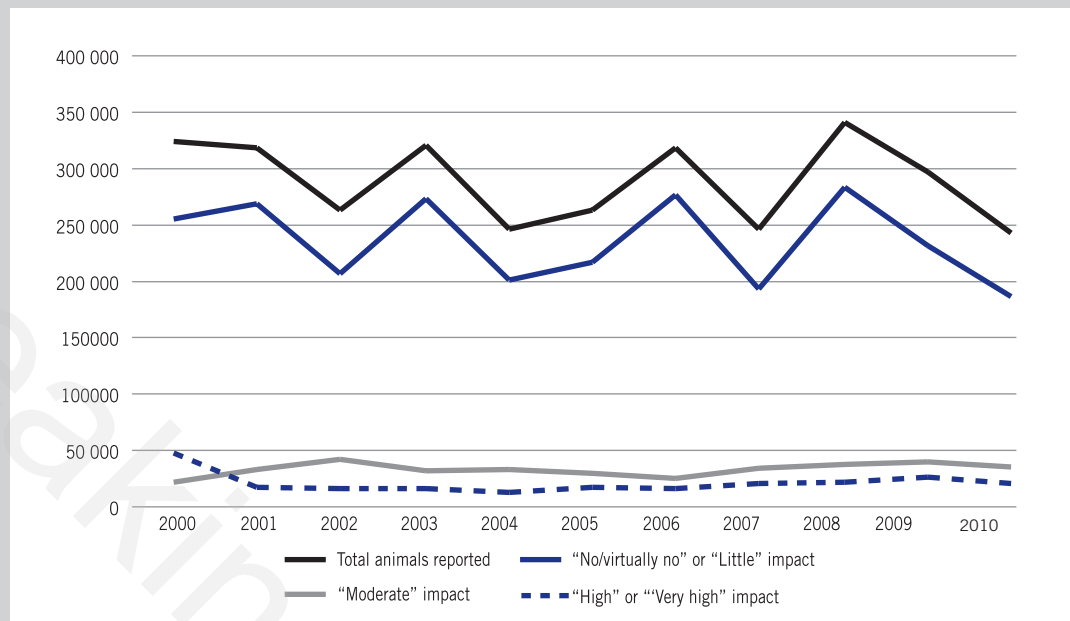
8.9.1 Long-term trends of the impact of RTT on the animals used in New Zealand

The number of animals that experience “no/virtually no” or “little” impact fluctuates between years. This fluctuation usually correlates with the change in total number of animals used. In the last 11 years the number of animals reported in these grades has consistently been between 76.4 percent and 87.0 percent of the total number of animals used each year. In 2010, 76.8 percent of the animals were exposed to manipulations which had no, virtually no, or little impact on the animal; down from 78.1 percent in 2009. The largest changes were recorded in the number of birds (-43 050) and farm animals (+28 202) manipulated in these grades in 2010.

The number of animals used in manipulations of “moderate impact” decreased from 39 463 in 2009 to 35 436 in 2010, a decrease of 4027 animals in this category. There was a notable increase in the number of birds (+1178) and decrease in rodents (-4027) and possums (-1092) allocated to this grade.

In 2010, a total of 20 772 animals experienced manipulations of “high impact” or “very high impact”, 4966 (19.3 percent) fewer than in 2009. A drop in the number of rodents (-4506), fish (-434) and possums (-477) in this grade was partially offset by an increase in “other” species (+192), farm animals (+47) and birds (+341). The highest numbers of animals reported in these grades was in 2000, with 47 583 (14.7 percent of the total) animals.

Long-term trends of the impact of RTT on the animals used in New Zealand



8.9.2 Manipulation grading of animals reported in 2010

The decrease of 54 962 animals manipulated for RTT in 2010 was reflected in nearly all the manipulation gradings, with only the numbers of animals experiencing “no or virtually no impact” from the RTT manipulation rising, by 14.1 percent (+7544). Numbers in all the other categories fell - “little impact” by 29.5 percent (-53 513), “moderate impact” by 10.2 percent (-4027), “high impact” by 48.4 percent (-1707) and “very high impact” by 14.7 percent (-3259).

The only animals featuring in the “very high impact” group were rodents and pest species. Animals in this and the “high impact” grades were manipulated in the following ways.

- Wallabies, ferrets, mice, rats and possums were used in studies designed to identify more humane toxins and tools for pest control.
- Guinea pigs were used in batch release testing for animal vaccines using. These tests are a regulatory requirement to demonstrate potency. These products prevent suffering and death in millions of other animals, both livestock and companion animals.
- The majority of the mice (>90 percent) were used in testing of antigens and animal vaccines mandated by regulation. Some (1303) were used for public health testing, mainly for algal bloom-induced marine biotoxins. 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. However the need for this use of mice has largely been replaced because of the development in New Zealand of non-animal tests, most of which have now been validated. Mice were also used in the “high” impact grading in the evaluation of anti-cancer agents (68).
- Six rats were used for medical research.
- Thirteen pigs were used to assess the relative humaneness of different gases and gas combinations for euthanasia.
- The 341 birds reported in the “high” impact category were all wild birds that were captured – and subsequently released – for the purposes of species conservation, disease surveillance and basic

biological research. The high grading reflects the level of stress that capture and sampling procedures have on wild species.

- Sheep (176) were used in the testing of a new vaccine.
- The cattle included in the “high” and “very high” categories included six animals that were part of a larger project (>300 animals) and which suffered uterine/vaginal damage as a result of difficult calvings. One animal was injured in a crush during a study. It was immediately sedated and then euthanased.

The 35.7 percent rise in the number of farm animals reported in the low impact grades in 2010 was due to increases for all farm species except pigs, with 98.3 percent of all farm animals reported in these grades. The highest proportion of this work (38.8 percent) was for animal husbandry purposes.

The decrease in birds in the low impact grades was mostly a result of the use of the 37 440 unborn chickens used in 2009 for investigating suspected cases of exotic avian disease, for ongoing surveillance for avian influenza and other pathogens in wild bird species.

An increase of 1178 birds was reported for the “moderate impact” grade compared to 2009. Birds in this grade were used for species conservation and basic biological research. The number of possums reported in the “moderate impact” grade decreased (-1092).

The majority (98.3 percent) of cats, dogs and horses were allocated to the two lowest impact grades, with the remainder in the “moderate impact” group. Altogether, cats and dogs were used for teaching (725), veterinary research (416), medical research (88), species conservation (64), basic biological research (32), animal husbandry (29), environmental management (8) and testing (6).

Summary of impact of manipulations in animals used for RTT in 2010

2010 summary	Total reported	Number in each manipulation grade				
		No/virtually no impact	Little impact	Moderate impact	High impact	Very high impact
Rodents	99 948	5 531	43 381	31 088	1 270	18 678
Sheep and cattle	98 200	36 312	60 121	1 584	183	0
Aquatic species ¹	19 741	13 233	5 776	332	0	0
Other domestic species	11 976	1 247	11 621	125	13	0
Birds	7 492	1 086	4 467	1 598	341	0
Possums	1 223	204	909	98	12	0
Other ²	2 569	83	1 600	611	0	275
Grade totals	242 149	58 066	127 875	35 436	1 819	18 953
Grade percentages		24.0%	52.8%	14.6%	0.8%	7.8%

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

2 ‘Other’ includes reptiles and miscellaneous species as described in section 8.2.

8.10 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 international Congresses on Alternatives and the Use of Animals in the Life Sciences;
- maintaining liaison with the New Zealand-3Rs Programme which operates within the Animal Welfare Science and Bioethics Centre at Massey University;
- promoting the Three Rs award to raise awareness and provide additional incentive for commitment to Three Rs;
- drawing attention to state-of-the-art articles on alternatives and the Three Rs in *Welfare Pulse* and the occasional paper series;
- sponsoring AEC workshops;
- encouraging regulatory acceptance of alternative non-animal tests where and when applicable;
- encouraging the use of non-animal teaching programmes.

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, high or very high impact, 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 necessary, and removal from the study or euthanasia immediately once the research objective is achieved.

8.11 The Three Rs

No animals were used in research aimed at developing methods to replace or reduce the use of live animals in research, testing and teaching in 2010.

Appendix 1

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

(As at 31 December 2010)

*Use another organisation's animal ethics committee

*AsureQuality NZ Ltd
Private Bag 14946
Panmure
AUCKLAND 1741

*Auckland University of
Technology
Private Bag 92006
Victoria Street West
AUCKLAND 1142

Auckland Zoological Park
Private Bag
Grey Lynn
AUCKLAND 1245

*Baldock, Anne K
Waikato Institute of Technology
Private Bag 3036
Waikato Mail Centre
HAMILTON 3240

Bay of Plenty Polytechnic
Private Bag 12001
TAURANGA 3143

*Bayer NZ Ltd
P O Box 2825
Shortland Street
AUCKLAND 1140

*Biocell Corporation Ltd
PO Box 23610
Hunters Corner
AUCKLAND 2155

*Bomac Research Ltd
P O Box 76369
Manukau City
AUCKLAND 2241

*Caledonian Holdings Ltd
PO Box 82
TAKANINI 2245

*A1 Genetic Services Ltd
706 North Road
Lorneville
INVERCARGILL 9810

*Abacus Biotech Ltd
P O Box 5585
DUNEDIN 9058
AgResearch Ltd (3 AECs)
Ruakura Agricultural Centre
Private Bag 3123
Waikato Mail Centre
HAMILTON 3240

*AgriHealth NZ Ltd
PO Box 46135
Herne Bay
AUCKLAND 1147

*AgriScience Consulting
PO Box 9466
Waikato Mail Centre
HAMILTON 3240

Agrivet Services Ltd
PO Box 8734
HAVELOCK NORTH 4157

*Agvet NZ Ltd
702/9 Hopetoun Street
Freemans Bay
AUCKLAND 1011

*Airway Ltd
21A Ranui Road
Remuera
AUCKLAND 1050

*Ambreed New Zealand Ltd
P O Box 176
Waikato Mail Centre
HAMILTON 3240

Ancare Scientific Ltd
P O Box 36240
Northcote
AUCKLAND 0748

*Ancrum Consultancies
134 Wild Road
RD 5
CHRISTCHURCH 7675

*Anderson, Peter V A
The Vet Centre Marlborough Ltd
7 Redwood Street
BLENHEIM 7201

*Androgenix Ltd
University of Auckland
Private Bag 92019
Victoria Street West
AUCKLAND 1142

*Animal Breeding Services
(2007) Ltd
3680 State Highway 3
RD 2
HAMILTON 3282

*Animal Health Centre
P O Box 21
MORRINSVILLE 3340

*Animal Health Research Ltd
PO Box 39491
Howick
AUCKLAND 2145

*Aoraki Polytechnic
Private Bag 902
TIMARU 7940

*Argenta Manufacturing Ltd
P O Box 75340
Manurewa
AUCKLAND 2243

*Carne Technologies Ltd PO Box 740 CAMBRIDGE 3450	Eastern Institute of Technology Private Bag 1201 Hawkes Bay Mail Centre NAPIER 4142	*IVP International New Zealand Ltd Private Bag 23026 Dalesford HAMILTON 3254
*Cawthron Institute Private Bag 2 Nelson Mail Centre NELSON 7042	*Elanco Animal Health PO Box 259354 Botany AUCKLAND 2163	*Jurox Pty Ltd 85 Gardiner Road Rutherford NSW 2320 AUSTRALIA
Christchurch Polytechnic Institute of Technology P O Box 540 CHRISTCHURCH 8140	*ES Plastics Ltd PO Box 5682 Frankton HAMILTON 3242	*Kahne Ltd 64 Cook Street AUCKLAND 1010
*Connovation Ltd PO Box 58613 Botany AUCKLAND 2163	Estendart Ltd Massey University Private Bag 11222 PALMERSTON NORTH 4442	*Karori Reservoir Wildlife Trust Inc P O Box 9267 Marion Square WELLINGTON 6141
*Cook, Trevor George Totally Vets Ltd 43 Manchester Street FEILDING 4702	*Four Rings Enterprises Ltd 9 Hurstwood Place Glen Innes AUCKLAND 1072	*KODE Biotech Ltd PO Box 5965 Wellesley Street AUCKLAND 1141
*Cropmark Seeds Ltd PO Box 16574 Hornby CHRISTCHURCH 8441	*Gribbles Veterinary (Hamilton) PO Box 195 Waikato Mail Centre HAMILTON 3240	*Kotare Bioethics Ltd P O Box 2484 Stortford Lodge HASTINGS 4153
*DairyNZ Ltd Private Bag 3221 Waikato Mail Centre HAMILTON 3240	*Hillcrest High School P O Box 11020 Hillcrest HAMILTON 3251	Landcare Research NZ Ltd P O Box 40 LINCOLN 7640
*Dairy Production Systems Ltd P O Box 24132 Abels HAMILTON 3253	*ImmunoEthical Associates (NZ) Ltd 4 Marshs Road Islington CHRISTCHURCH 8042	Lincoln University P O Box 84 Lincoln University LINCOLN 7647
*Deer Improvement Ltd 270 Ardlussa Road RD 6 GORE 9776	*Innate Therapeutics Ltd P O Box 91806 Victoria Street West AUCKLAND 1142	*Lind, Jeremy J JL Vets Services 4 Wake Place RD 1 PALMERSTON NORTH 4471
Department of Conservation P O Box 10420 The Terrace WELLINGTON 6143	*Invitrogen NZ Ltd P O Box 12502 Penrose AUCKLAND 1642	*Livestock Improvement Corporation Ltd Private Bag 3016 Waikato Mail Centre HAMILTON 3240
*Duir NZ Ltd P O Box 959 Waikato Mail Centre HAMILTON 3240		

Living Cell Technologies NZ Ltd
P O Box 23566
Hunters Corner
AUCKLAND 2155

*Malaghan Institute of Medical Research
P O Box 7060
Newtown
WELLINGTON 6242

*Mason Consulting
317 Dunns Crossing Road
RD 8
CHRISTCHURCH 7678

*MAF Biosecurity New Zealand Investigation and Diagnostic Centre
P O Box 40742
UPPER HUTT 5140

Massey University
Private Bag 11222
Manawatu Mail Centre
PALMERSTON NORTH 4442

*Merial NZ Ltd
P O Box 76211
Manukau City
AUCKLAND 2241

National Institute of Water & Atmospheric Research Ltd
P O Box 8602
Riccarton
CHRISTCHURCH 8440

Nelson Marlborough Institute of Technology
Private Bag 19
Nelson Mail Centre
NELSON 7042

New Zealand Association of Science Educators
PO Box 10122
The Terrace
WELLINGTON 6143

New Zealand Forest Research Institute Ltd
P O Box 3020
Rotorua Mail Centre
ROTORUA 3046

*New Zealand Institute for Plant & Food Research Ltd
Private Bag 92169
Victoria Street West
AUCKLAND 1142

*New Zealand Leather and Shoe Research Association (Inc)
P O Box 8094
Hokowhitu
PALMERSTON NORTH 4446

*Novartis NZ Ltd
6 MacKelvie Street
Grey Lynn
AUCKLAND 1021

*Oamaru Veterinary Services
311 Thames Street
OAMARU 7910

*On-Farm Research Ltd
P O Box 1142
HASTINGS 4156

*Otago Polytechnic
Private Bag 1910
DUNEDIN 9054

*Parnell Laboratories (Aust) Pty Ltd
4/476 Gardeners Road
Alexandria
NSW 2015
AUSTRALIA

*Pest Control Research Ltd
P O Box 7223
Sydenham
CHRISTCHURCH 8240

*Pest-Tech Ltd
P O Box 40
LEESTON 7656

*Pfizer Pty Ltd
14 Normanby Road
Mt Eden
AUCKLAND 1024

*PGG Wrightson Consulting
PO Box 42
DANNEVIRKE 4942

*PGG Wrightson Seeds
P O Box 939
CHRISTCHURCH 8140

PharmVet Solutions
P O Box 78037
Grey Lynn
AUCKLAND 1245

*Rotorua District Veterinary Club
P O Box 340
ROTORUA 3040

Schering-Plough Animal Health Ltd
Private Bag 908
UPPER HUTT 5140

South Pacific Sera Ltd
P O Box 27
TIMARU 7940

Southern Institute of Technology
Private Bag 90114
INVERCARGILL 9840

*Synlait
1028 Heslerton Road
RD 13
RAKAIA 7783

*Tegel Foods Ltd
Private Bag 99927
Newmarket
AUCKLAND 1149

*The New Zealand Merino Company Ltd
PO Box 25160
Victoria Street
CHRISTCHURCH 8144

Thermo Fisher Scientific Inc
P O Box 658
Seventh Avenue
TAURANGA 3140

*Towers Consulting
27 Mansel Avenue
Hillcrest
HAMILTON 3216

*Trinity Bioactives Ltd PO Box 15135 Miramar WELLINGTON 6243	*VetSouth Ltd P O Box 12 WINTON 9741
*Unitec Institute of Technology Private Bag 92025 Victoria Street West AUCKLAND 1142	*ViaLactia BioSciences Ltd PO Box 49 MORRINSVILLE 3340 Victoria University of Wellington P O Box 600 WELLINGTON 6140
*Universal College of Learning Private Bag 11022 PALMERSTON NORTH 4442 University of Auckland Private Bag 92019 Victoria Street West AUCKLAND 1142	*Virbac Laboratories (New Zealand) Ltd 30 Stonedon Drive East Tamaki AUCKLAND 2013 Waikato Institute of Technology Private Bag 3036 Waikato Mail Centre HAMILTON 3240
University of Canterbury Private Bag 4800 CHRISTCHURCH 8140 University of Otago (3 AECs) P O Box 913 DUNEDIN 9054	*Wakefield Gastroenterology Research Trust Private Bag 7909 Newtown WELLINGTON 6242
University of Waikato Private Bag 3105 Waikato Mail Centre HAMILTON 3240 Valley Animal Research Centre PO Box 2648 Stortford Lodge HASTINGS 4153	*Wanganui Veterinary Services Ltd PO Box 911 Wanganui Mail Centre WANGANUI 4540
*Vet Nurse Plus PO Box 276115 Manukau City AUCKLAND 2241	* Ward, Christopher G 70B Pariri Road RD 3 KAITAIA 0483
*Vet Resource 316 Pokuru Road RD 5 TE AWAMUTU 3875	*Wellington Institute of Technology Private Bag 39803 Wellington Mail Centre LOWER HUTT 5045
*Veterinary Enterprises Group PO Box 83 TE AWAMUTU 3840	
*Veterinary Health Research Pty Ltd PO Box 9466 Waikato Mail Centre HAMILTON 3240	

Appendix 2

Codes of Ethical Conduct Revoked and Notified Arrangements Terminated

(As at 31 December 2010)

- Agri-Feeds Ltd
- Agriculture New Zealand Ltd
- Agrimm Biologicals Ltd
- AgVax Developments Ltd
- Agvet Consultants Ltd
- Alexander and Associates
- AM² and Associates
- Animal Control Products Ltd
- Animal Health Advisory
- Animal Health Services Centre
- Animalz Napier Ltd
- Arthur Webster (New Zealand) Pty Ltd
- Aspiring Animal Services Ltd
- Auckland Area Health Board (formerly Auckland Hospital Board)
- Autogenous Vaccines
- Baker, Allan J
- BioLogic Scientific Consulting Ltd
- 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
- Fonterra Innovation
- Fort Dodge NZ Ltd
- Geneco Ltd
- Genesis Research and Development Corporation Ltd

- Get Real Productions
- Grasslands Division, DSIR
- Green Lane & National Women's Hospitals
- Health Waikato
- Hutt Hospital
- ICPbio Ltd
- Impian Technologies Ltd
- Institute of Environmental Science & Research Ltd
- Info-Brok
- InterAg
- Intervet NZ Ltd
- Johnson & Johnson (New Zealand) Ltd
- Kelly Tarlton's Antarctic Encounter and Underwater World
- 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
- Neuren Pharmaceuticals Ltd
- 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
- Pharma Pacifica
- Photonz Corporation Ltd
- Plade Holdings Ltd
- PPL Therapeutics (NZ) Ltd
- Protomix Corporation 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
- Xcluder pest proof Fencing Company 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

These documents are 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
- 2007 Annual Report
- 2008 Annual Report
- 2009 Annual Report

Newsletters (NAEAC News)

Twenty-nine issues of *NAEAC News* were published between August 1991 and December 2008. From 2009, the content of *NAEAC News* was merged with that of other publications and became *Welfare Pulse*.

NAEAC Guides

- *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)
- *Guidelines for the Welfare of Livestock from which Blood is Harvested for Commercial and Research Purposes* (March 2009)
- *Good Practice Guide for the Use of Animals in Research, Testing and Teaching* (June 2010)

NAEAC Occasional Papers

1. *Underreporting of the Three Rs deployment that occurs during the planning of protocols the precedes submission to animal ethics committees* (September 2008)
2. *Regulation of animal use in research, testing and teaching in New Zealand – the black, the white and the grey* (April 2009)
3. *Regulation of animal use in research, testing and teaching: Comparison of New Zealand and European legislation* (October 2009)
4. *Compliance monitoring: The University of Auckland approach* (October 2009)
5. *Monitoring methods for animal ethics committees* (October 2010)

Availability

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

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

or by contacting:

Animal Welfare Standards

Ministry of Agriculture and Forestry

PO Box 2526

Wellington 6140

New Zealand

Phone 0800 008333, fax 04 894 0747, email: animalwelfare@maf.govt.nz

Appendix 4

NAEAC Policies

- Use of more than one AEC
- NAEAC guidelines for drafting an AEC protocol application
- NAEAC guidelines for AECs on adequate monitoring
- Production of genetically-modified animals
- Commercial cloning
- Definition of “scientific community”
- Killing as a manipulation
- Which AEC should assume the approval role?
- Conflicts of interest

Some policies are still under review in 2011.

Appendix 5

Accredited Reviewers

(Pursuant to section 109 of the Animal Welfare Act 1999)

Dr Wendy R **COOK**
AsureQuality Ltd
Private Bag 3080
Waikato Mail Centre
HAMILTON 3240
Phone: 07-8502825
Fax: 07-8502801
Email: wendy.cook@asurequality.com

Dr Keith D **PATERSON**
AsureQuality Ltd
24 Plateau Heights
MOUNT MAUNGANUI 3116
Phone: 07-5752635
Email: patersonk@asurequality.com

Dr Michael D **GRANT**
AsureQuality Ltd
PO Box 307
PUKEKOHE 2340
Phone: 09-2371801
Fax: 09-2383757
Email: grantm@asurequality.com

Dr A B (Nita) **HARDING**
69B Matangi Road
RD 4
HAMILTON 3284
Phone: 07-8564434
Email: nitaharding99@gmail.com

Dr G Lester **LAUGHTON**
AsureQuality Ltd
PO Box 644
INVERCARGILL 9840
Phone: 03-2146757
Fax: 03-2146760
Email: laughtonl@asurequality.com

Dr David R **MORGAN**
Landcare Research NZ Ltd
PO Box 40
LINCOLN 7640
Phone: 03-3219750
Fax: 03-3252418
Email: morgand@landcareresearch.co.nz

Appendix 6

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:

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

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 7

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

	2010		2009		2008		2007		2006	
	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
Amphibia	811	7	2378	14	264	5	272	9	968	10
Birds	7 492	33	49 023	78	31 053	23	5 907	18	59 404	18
Cats	554	1	1 132	12	804	4	663	13	757	2
Cattle	42 341	2	24 763	3	69 564	1	30 030	2	41 748	2
Cephalopods/ crustaceans	3 107	7	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Deer	9 094	1	5 967	3	2 951	6	4 242	12	8 062	2
Dogs	814	7	690	7	792	5	1 071	–	682	1
Fish	15 611	15	23 736	46	41 057	44	14 218	31	8 804	64
Goats	1 161	5	3 231	6	1 374	1	2 025	–	900	14
Guinea pigs	2 316	96	4 061	99	3 075	98	3 374	97	3 041	97
Horses/ donkeys	840	2	709	1	525	1	540	1	390	1
Marine mammals	212	–	651	–	1 535	–	82	–	156	–
Mice	84 620	94	90 982	91	87 154	98	94 714	86	59 936	82
Pigs	513	69	995	24	417	58	1 159	20	807	28
Possums	1 223	76	4 797	63	1 644	80	1 263	79	5 009	50
Rabbits	1 846	95	2 018	97	2 049	96	1 950	92	1 702	97
Rats	11 166	96	17 333	82	13 960	95	20 488	97	17 208	95
Reptiles	1 686	14	7 422	1	2 327	1	345	26	12 118	3
Sheep	55 859	5	45 991	9	78 093	4	62 657	5	94 532	8
Misc. species	883	31	11 232	13	2 882	13	1 667	22	2 265	18
Total no. used	242 149		297 111		341 520		246 667		318 489	
Yearly %		43%		55%		40%		48%		31%

Appendix 8

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

Group	Year	Rats, mice guinea pigs, rabbits	Sheep, cattle, goats	Other domestic animals	Birds	Fish	All other species	Total
Universities	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
	2008	43 323	13 543	3 442	26 437	34 118	2 876	123 739
	2009	26 709	3 502	2 795	3 335	22 004	20 294	78 639
	2010	26 388	13 694	7 551	6 170	12 817	3 373	69 993
Commercial organisations	2006	32 617	48 346	1 121	26	–	272	82 382
	2007	41 593	45 265	1 407	142	–	261	88 668
	2008	47 551	97 601	723	3 728	–	27	149 630
	2009	62 351	41 188	757	77	–	317	104 690
	2010	49 032	38 142	520	4	2	278	87 978
Crown research institutes	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
	2008	12 825	34 899	712	377	6 810	1 959	57 582
	2009	15 326	26 218	4 250	2 827	1 360	5 354	55 335
	2010	4 162	42 261	3 055	1 014	977	1 057	52 526
Polytechnics	2006	184	501	728	117	240	12	1 782
	2007	261	1 745	882	219	275	18	3 400
	2008	203	2 065	500	89	66	15	2 938
	2009	215	2 779	1 403	74	16	70	4 557
	2010	172	4 030	636	130	109	188	5 265
Government departments	2006	–	664	–	8 618	–	617	9 899
	2007	143	–	55	454	–	76	728
	2008	13	300	–	369	1	2 552	3 235
	2009	19	–	256	42 572	–	419	43 266
	2010	51	–	8	91	–	140	290
Other	2006	4 644	389	–	18	–	29	5 080
	2007	22 184	3 552	–	54	–	15	25 805
	2008	2 120	–	–	15	–	53	2 188
	2009	9 686	–	–	108	332	25	10 151
	2010	20 062	1 152	–	24	1 600	5	22 843
Schools	2006	136	240	45	15	–	609	1 045
	2007	33	59	22	–	27	625	766
	2008	203	623	112	38	62	1 170	2 208
	2009	88	298	32	30	24	1	473
	2010	81	82	45	59	106	2 881	3 254
TOTAL	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
	2008	106 238	149 031	5 489	31 053	41 057	8 652	341 520
	2009	114 394	73 985	9 493	49 023	23 736	26 480	297 111
	2010	99 948	99 361	11 815	7 492	15 611	7 922	242 149

Appendix 9

“Purpose of Manipulation” Categories

Category	Description
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 and research into methods of reducing production of greenhouse gases.
Animal husbandry	Animal husbandry, including reproduction, nutrition, growth and production.
Basic biological research	Basic biological research.
Medical research	Research aimed at improving the health and welfare of humans, but not research on human subjects.
Veterinary research	Research 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 for 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 10

Summary of the impact grade allocated by species in 2010

Species	No impact	Little impact	Moderate impact	High impact	Very high impact	Total
Amphibians	40	771	–	–	–	811
Birds	1 086	4 467	1 598	341	–	7 492
Cats	340	185	29	–	–	554
Cattle	12 637	29 263	434	7	–	42 341
Cephalopods/ crustacea	2 913	178	16	–	–	3 107
Deer	42	9 002	50	–	–	9 094
Dogs	457	352	5	–	–	814
Fish	10 621	4 674	316	–	–	15 611
Goats	–	1 154	7	–	–	1 161
Guinea pigs	66	397	–	1 113	740	2 316
Horses	258	579	3	–	–	840
Marine mammals	59	153	–	–	–	212
Mice	5 106	34 265	27 201	110	17 938	84 620
Pigs	120	349	31	13	–	513
Possums	204	909	98	12	–	1 223
Rabbits	73	1 682	91	–	–	1 846
Rats	286	7 037	3 796	47	–	11 166
Reptiles	20	1 530	136	–	–	1 686
Sheep	23 675	30 858	1 150	176	–	55 859
Misc. species	63	70	475	–	275	883
TOTAL	58 066	127 875	35 436	1 819	18 953	242 149

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