



ANIMAL WELFARE

National Animal Ethics Advisory Committee

Annual Report 1 January to 31 December 2013

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

NAEAC

National Animal Ethics Advisory Committee

National Animal Ethics Advisory Committee

Mission Statement

To provide independent, high quality advice and recommendations to the Minister for Primary Industries, the Director-General for Primary Industries and animal ethics committees on all matters relating to the use of animals in research, testing and teaching.

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C/- Ministry for Primary Industries
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New Zealand**

September 2014

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1 From the Chair

2013 was a busy year for NAEAC – as well as our usual four scheduled meetings, we also reviewed eight codes of ethical conduct at a separate meeting. As usual, our May meeting was held outside Wellington – this time in Auckland – to enable committee members to increase their understanding of the different types of animal research, testing and teaching being carried out in New Zealand. These visits also provide opportunities to meet and share information with AEC members.

Drs Martin Kennedy and Justine Stewart both retired from the committee at the end of October after serving two three-year terms. Their contribution is much appreciated. Both were very active members, with Dr Kennedy serving as Deputy Chair in his final year, with Dr Peter Larsen filling the role for the remainder 2013. Dr Karen Booth was reappointed for a further three year term. The Hon Robyn Kippenberger resigned from the committee in September to take up employment overseas.

The committee is indebted to the sterling work of MPI staff Linda Carsons and Paula Lemow. Their organisation of committee business is both professional and efficient – and much valued.

NAEAC has continued to work closely with MPI on the review of the Animal Welfare Act and made an oral submission to the Primary Production Select Committee on the Animal Welfare Amendment Bill. In addition, the committee made a written submission to the Health Select Committee on the Psychoactive Substances Bill.

With a focus on assisting AECs with their decision-making processes, NAEAC is anticipating the results from a research project, initiated at the end of 2013, to look into how AECs assess protocols, particularly in relation to cost/benefit analyses.

As usual, this report contains, as appendices, the Ministry for Primary Industries (MPI) statistics detailing animal use in research, testing and teaching during 2013. A total of 224 048 animals used in research, testing and teaching were reported in 2013, a 25.9 percent decrease over the previous year, the lowest number since 1997 and the lowest number under the current legislation. The rolling 3-year average was also down.

Virginia Williams
Chair



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 animal ethics committee (AEC) 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.

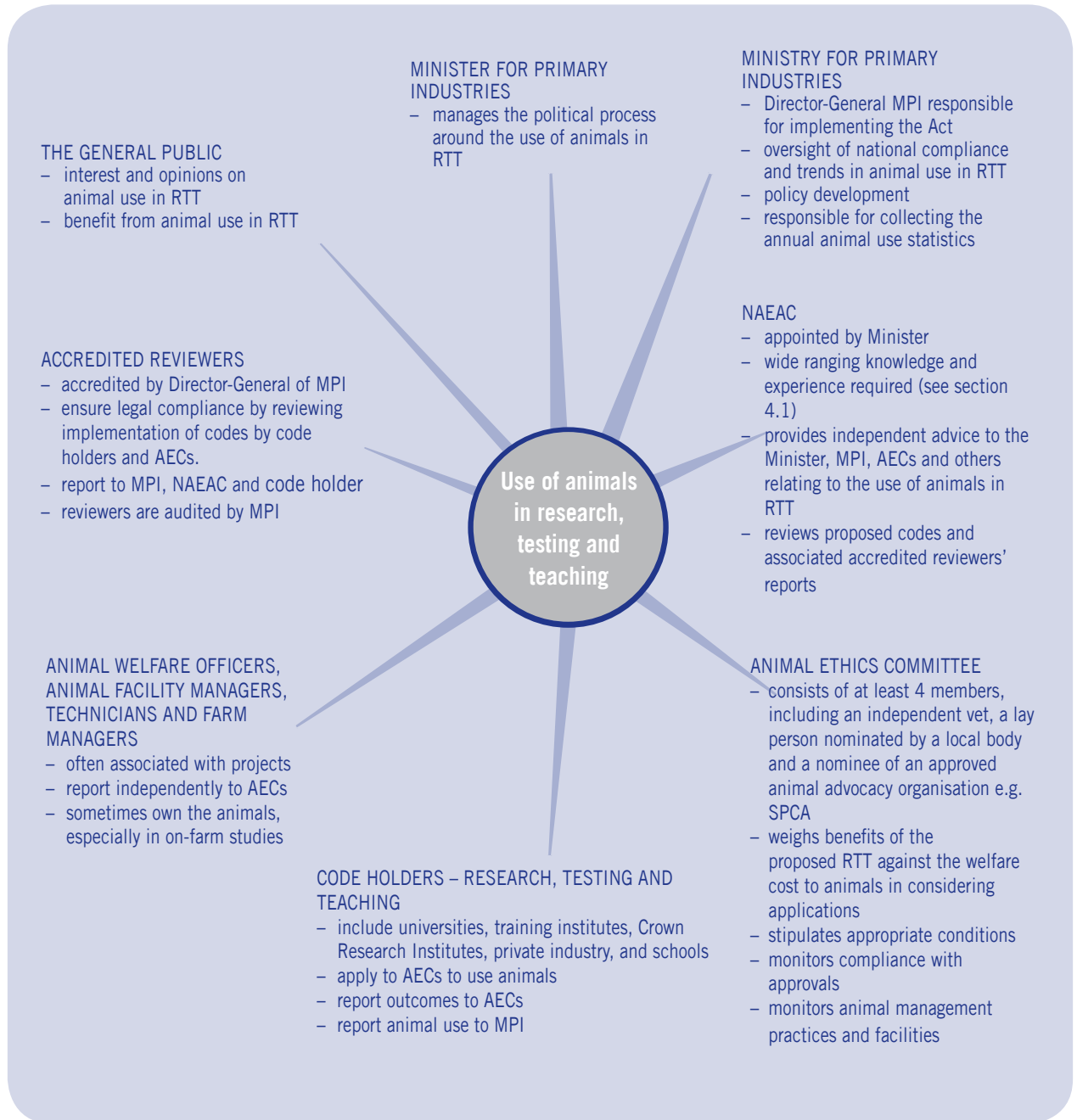
AECs are also responsible for monitoring compliance with the conditions of project approvals and the animal management practices and facilities of the institution. The Act requires that AECs have at least four members. Three of these must come from outside the organisation and include a veterinarian 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 for Primary Industries 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 for Primary Industries 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 the Ministry for Primary Industries (MPI) regularly (clause 9 of schedule 2 of the Animal Welfare Act).

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

Use of animals in research, testing and teaching diagram

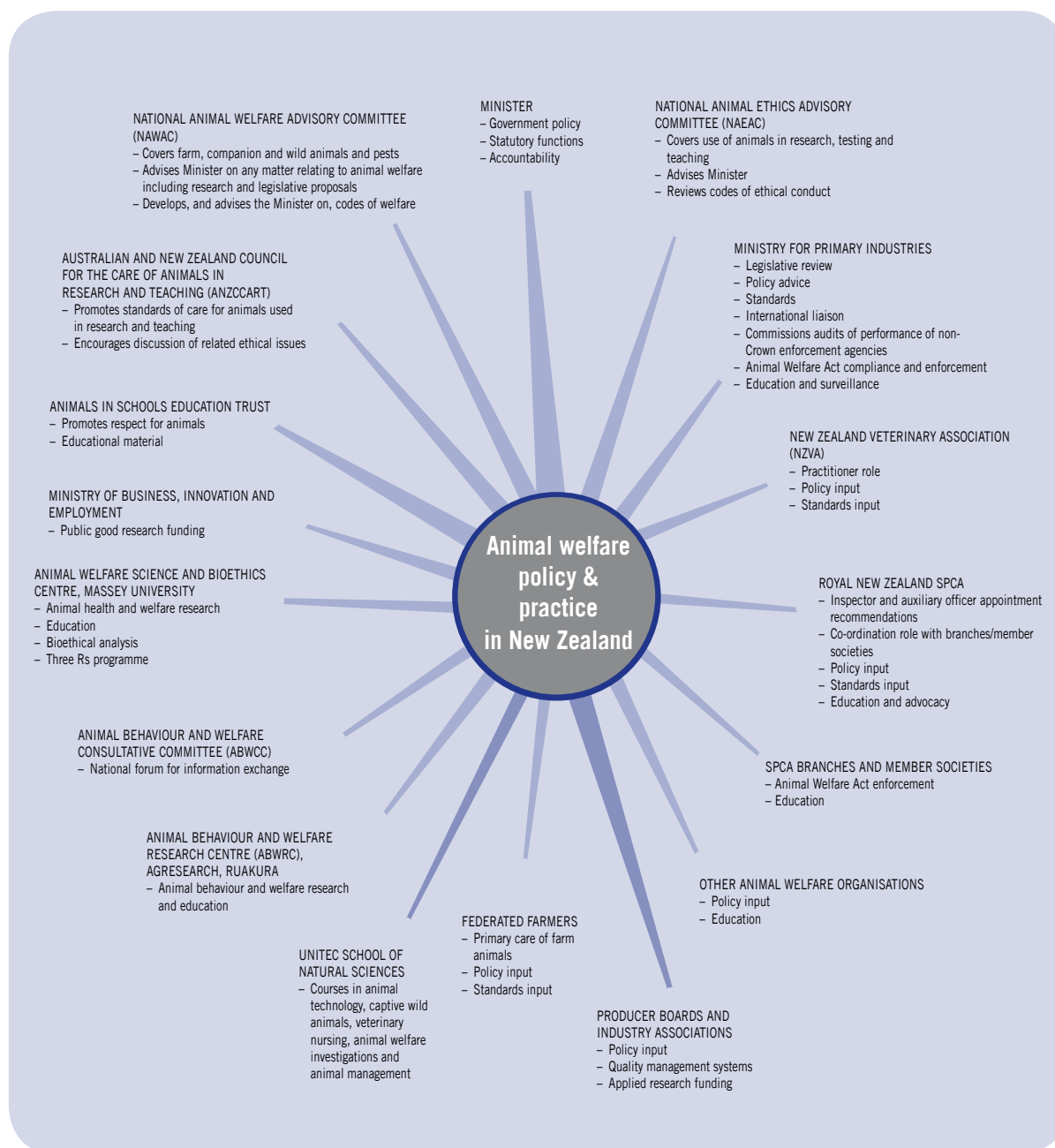


2.2 Legal Status of NAEAC

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 for Primary Industries 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 2013.

Members	Expiry of Appointment
Dr Virginia M Williams BVSc, MACVSc, Dip Prof Ethics, Animal Welfare Consultant (Independent Chairperson)	31.10.15
Dr Karen Booth BSc BVSc CertVR MACVSc, Manager Regulatory Affairs, Zoetis New Zealand Ltd (nominated by Agcarm Inc)	31.10.16
Ms Therese (Terry) M Burrell BSc (Hons), Dip Tchg, Learning Area Leader, Science, Onslow College (nominated by the Ministry of Education)	31.10.15
Mr Stephen G Cairns BCom (VPM), Dip Grad, Strategic Development Manager, Arrow International (NZ) Ltd (nominated by Local Government New Zealand)	31.10.16
Professor Craig B Johnson BVSc PhD, Cert VA DVA DipECVA, Professor of Veterinary Neurophysiology, Institute of Veterinary, Animal and Biomedical Sciences, Massey University (nominated by the New Zealand Veterinary Association)	31.10.16
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
Hon Robyn J Kippenberger Dip Home Science, Dip Tchg, National Chief Executive, Royal New Zealand Society for the Prevention of Cruelty to Animals (nominated by RNZSPCA)	31.10.14
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)	31.10.15
Dr Justine H Stewart BVSc, Technical Manager, Auckland Meat Processors	31.10.13
Dr Malcolm D Tingle BSc (Hons) PhD, Associate Professor, Department of Pharmacology & Clinical Pharmacology, The University of Auckland (nominated by the Health Research Council of New Zealand)	31.10.16
Mr Bruce Warburton MSc, Scientist (nominated by Landcare Research New Zealand Ltd)	31.10.15

Drs Martin Kennedy and Justine Stewart both retired from the committee after serving for six years. The committee wishes to record its appreciation for their contribution. Both were very active members, with Dr Kennedy serving as Deputy Chair in his final year. Dr Kennedy was replaced by Dr Tingle and Dr Stewart was replaced by Professor Johnson. Dr Karen Booth was reappointed for a further three year term. The Hon Robyn Kippenberger resigned from the committee in September to take up employment overseas. As at the end of 2013 her replacement had not been appointed.

4.3 Deputy Chairperson

The Animal Welfare Act 1999 requires the committee to elect a deputy chairperson at the first meeting of each year. Dr Martin Kennedy was elected to fulfil this role in 2013. Following the ending of his term in October, Dr Peter Larsen agreed to fill the role until the legally required election at the first meeting of each year.

4.4 Secretariat

The Animal Welfare Team within MPI 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 MPI's Principal Adviser. Committee secretary, Paula Lemow, provides excellent and efficient service to the committee.

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 2013 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 2013.

Member	Fees paid during 2013 (gross)
V Williams	\$18,425.00
K Booth ¹	\$0
T Burrell	\$5,000.00
S Cairns	\$2,800.00
C Johnson	\$600.00
M Kennedy	\$4,400.00
R Kippenberger	\$1,800.00
P Larsen	\$4,800.00
J Stewart	\$2,600.00
M Tingle	\$400.00
B Warburton ²	\$3,800.00

1 Zoetis 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 five times in 2013.

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.

Member	7/02/12	9/05/12	14/08/12	16-7/10/12	15/11/12	12/02/13	8/05/13	13/08/13	22-23/10/13	12/11/13
V Williams	•	•	•	•	•	•	•	•	•	•
I Buchanan	•	•	•	•	•	-	-	-	-	-
A Dodds	•	•	•	•	-	-	-	-	-	-
K Booth	•	•	x	•	•	x	•	•	•	•
T Burrell	-	-	-	-	•	•	•	•	•	•
S Cairns	-	-	-	-	-	-	-	•	•	•
C Johnson	-	-	-	-	-	-	-	-	-	•
M Kennedy	•	•	•	•	•	•	•	•	•	-
R Kippenberger	•	•	•	x	•	•	•	x	-	-
P Larsen	•	•	x	•	•	•	•	•	•	•
D Morgan	•	•	•	•	-	-	-	-	-	-
J Stewart	•	•	•	•	•	•	•	•	x	-
M Tingle	-	-	-	-	-	-	-	-	-	•
B Warburton	-	-	-	-	•	•	•	•	x	•

• Present, x Absent, – Not applicable

4.6.2 Strategic and operational plans

The committee held a major strategic planning session in August, facilitated by Lab Wilson of Bats Inc Ltd. This resulted in a review of the committee's vision and strategic priorities, both to be confirmed early in 2014. Operational plans are developed each year based on the strategic plan. Progress against the 2013 operational plan was reviewed at each quarterly meeting.

4.6.3 Performance review

The committee carries out an internal performance review at the end of each year, providing members with an opportunity to reflect on the way the committee has operated over the previous 12 months. In this, as in other reviews, the committee expresses its appreciation for the excellent support it receives from the MPI Animal Welfare staff. Two areas were noted for further focus:

- A suggestion was made that the committee would benefit from having its views challenged.
- A suggestion to review the accredited reviewers' checklist.

4.6.4 Annual reports

Since 2000, NAEAC has been required by law to provide the Minister for Primary Industries with an annual report. In practice, the committee had been doing so for many years, beginning with a report that covered the years 1989 to 1991. A list of these reports and other relevant publications can be found in Appendix 3.

4.6.5 Policy review

NAEAC completed a review of its policies in 2011, and will review them on a regular basis, but at least every five years. A list of current policies can be found in Appendix 4.

4.6.6 Conferences attended

NAEAC members, and members of NAEAC's secretariat and support staff, attended – and in many cases gave presentations at – the following conferences and meetings in 2013:

- World Small Animal Veterinary Association Congress, Auckland, March;
- New Zealand Veterinary Association Conference, Palmerston North, July;
- Australia and New Zealand College of Veterinary Scientists Science Week, July, Gold Coast;
- ANZCCART Conference, Sydney, July;
- BioLive Conference, Christchurch, July;
- Commonwealth Veterinary Association Regional Conference, September, Fiji;
- University of British Columbia Animals in Research: Openness, Democratic Decision-Making and Public Engagement, Vancouver, November;
- 7th International Conference on Sensing Technology, December, Wellington.

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 approved by the Director-General of MPI.

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 MPI, 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 MPI to be notified of the arrangement in writing before any manipulations take place. Termination of the arrangement should also be notified to MPI. Such arrangements, or terminations thereof, are not published in the *Gazette*.

In addition, while major amendments to codes must be approved by MPI, code holders may make minor amendments. However, MPI 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 Independent Reviews

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 MPI 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. A list of 2013's accredited reviewers can be found in Appendix 5.

5.3 Activity During 2013

The table below outlines the applications processed and notifications made during 2012 and 2013.

	2013	2012
Approval of new code	8	8
Notification of arrangement to use existing code	25	28
Approval of amendments to code	0	2
Notification of minor amendments to code	1	1
Termination of notified arrangement to use existing code	8	7
Code suspended at request of code holder	0	1
Code revoked	0	1
Code expired and not renewed	2	0
Arrangement to use existing code lapsed	7	1

Code holders with codes approved in 2008, had mandatory independent reviews completed during 2013.

During 2013, eight institutions had their new codes approved following successful reviews. Two organisations had amendments to their codes approved after consultation with NAEAC and one organisation notified a minor amendment to its code. Twenty-five organisations made arrangements to utilise existing codes and eight 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).

Both NAEAC and the Director-General of MPI 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 MPI'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.

Details of all codes approved or revoked and arrangements notified or terminated are published regularly in *Welfare Pulse*.

5.4 Approvals in Force

The following table gives details of the number of approvals in force as at 31 December 2012 and 2013.

Number of:	2013	2012
organisations using an approved code	113	114
approvals in force ¹	116	117
organisations with a code ²	28	29
animal ethics committees established ^{2,3}	32	33
organisations using another organisation's AEC	85	85

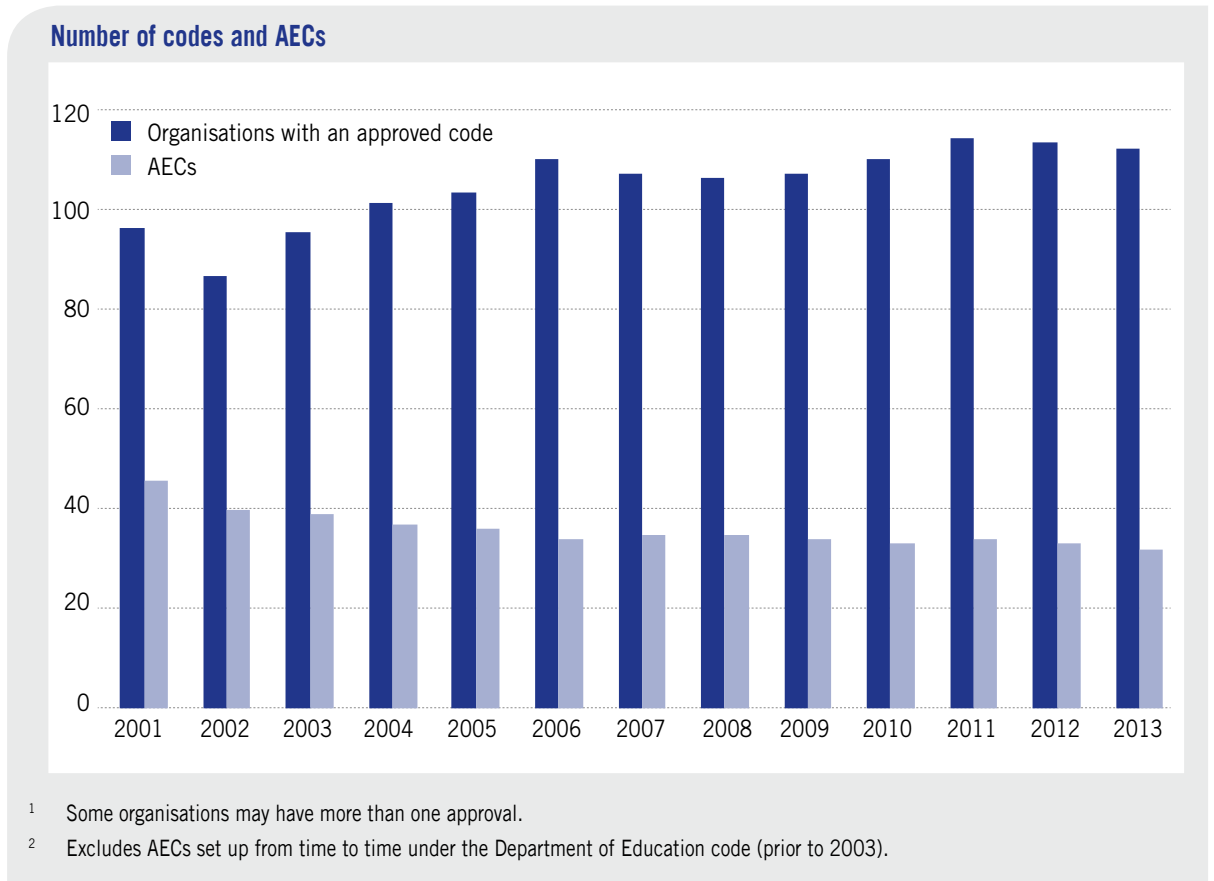
¹ One organisation has four approvals in force as it uses a different AEC for work in different locations.

² One organisation's code has been suspended at the request of the code holder.

³ Two organisations each have three animal ethics committees to facilitate work carried out at more than one campus/location.

5.5 Approvals Not Made by AECs

The number of organisations/individuals using an approved code (their own or another organisation's) in 2013 was, at 113, one less than in 2012. The number of AECs to deal with projects from all those organisations was, at 32, one less than in 2012. Changes that have occurred since 2001 are shown graphically below.



Appendix 1 lists the organisations with an approved code as at 31 December 2013 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 MPI. Thus, if a company changes its name as a result of a sale, or merges with another entity, this has the effect of revoking the code of ethical conduct approval unless the change is effected with the Director-General's consent.

5.5.1 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 MPI 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 2013.

5.5.2 Research or testing in the national interest

The Minister for Primary Industries 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 Committees

NAEAC sees its function of providing information and advice to AECs as important in promoting good decision-making. Communications take the following forms.

6.1 Visits

It is NAEAC's policy to hold one meeting a year outside Wellington, enabling the committee to meet with AEC members in regional areas. In 2013, the committee held its May meeting in Auckland, and visited four institutions that use animals for research and/or education:

- Living Cell Technologies, a biotechnology company pioneering innovative therapies for the treatment of human diabetes and neurological diseases;
- The University of Auckland, with a focus on basic biological and applied health sciences;
- Unitec Institute of Technology, where animals are used in the education of students with interest in careers involving animal care and husbandry; and
- Auckland Zoo, where research and education is focused on conservation medicine.

Where possible, NAEAC members also attend AEC meetings in their area.



Members of NAEAC and MPI during their visit to Auckland.



NAEAC members checking the heart rate of a mannequin dog at Unitec.

6.2 AEC Newsletters

NAEAC sees the occasional newsletters to AECs from the NAEAC Chair as a means of maintaining contact with the committees, giving them news from NAEAC meetings as well as the committee's responses to queries from AECs on various issues for which clarification is sought. Two newsletters were sent out during 2013.

6.3 Welfare Pulse

The MPI 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. It is now produced electronically and is available at <http://www.biosecurity.govt.nz/regs/animal-welfare/pubs/welfare-pulse>

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.

Four issues of *Welfare Pulse* were produced in 2013; issue 13 in March, issue 14 in June, issue 15 in September and issue 16 in December.

Articles by NAEAC members and support staff included:

- The NAEAC Workshop (V Williams, March)
- Retirement of Dr John Schofield (V Williams/M Fisher, June)
- Auckland Island pigs, zebrafish and mannequins (K Booth, September)
- The important role of non-institutional members of animal ethics committees (V Williams, December)

6.4 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'.

The following papers have been published:

- 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) 2010. This had its origins in a paper presented to ANZCCART's 2009 conference in Australia.
- Occasional Paper No. 6 – *Planning for refinement and reduction* (D Fry, RG Das, R Preziosi and M Hudson) 2011, reprinted with permission from the authors and organisers of the 7th World Congress on Alternatives and Animal Use in Life Sciences, Rome 2009
- Occasional Paper No. 7 – *Avoiding duplication of research involving animals* (D Morgan) 2011
- Occasional Paper No. 8 – *Research on Vertebrate Pesticides and Traps: Do Wild Animals Benefit?* (B Warburton and C O'Connor) August 2012
- Occasional Paper No. 9 – *Ensuring regulatory compliance in the use of animals in science in New Zealand – the review process* (V Williams and L Carsons) August 2012, reprinted with permission from the authors and organisers of the 8th World Congress on Alternatives and Animal Use in Life Sciences, Montreal 2012

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

6.5 Reference Material for Code Holders and AECs

The resource package of published material collated by NAEAC for new AEC members is reviewed and updated annually.

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 Benefits Us – And 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;
- Animals and Society (Royal Society of New Zealand Beta publication);
- NAEAC annual report.

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 2013 award, sponsored by the Royal New Zealand SPCA, was presented to Dr Sarah-Jane Guild on behalf of Professor Simon Malpas and the Circulatory Control Laboratory team at Auckland's Bioengineering Institute for their development and validation of a number of wireless physiological monitoring tools. The team's telemetry devices allow remote and continuous monitoring of signals such as blood pressure and heart activity. In addition to use in the team's own research work, the technology has been commercialized and exported to over 30 countries, and is now used in some of the world's major pharmaceutical companies.

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. Such an award was made to Mr Richard Reynolds in recognition of 25 years of service as the Federated Farmers nominee on the AgResearch (Ruakura) AEC.

7.3 NAEAC Research Priorities

NAEAC initiated a research project at the end of 2013 to look into how AECs assess protocols, with a focus on the cost/benefit analysis. Results will be available in 2014, and the committee is hopeful it will enhance NAEAC's ability to assist AECs in their decision-making process.

7.4 Legislation

NAEAC has continued to work closely with MPI on the Animal Welfare Amendment Bill. NAEAC members Dr Virginia Williams and Associate Professor Peter Larsen made an oral submission to the Primary Production Select Committee in October, which included the committee's opinion on the Supplementary Order Paper on psychoactive substances.

The committee also made a written submission on the Psychoactive Substances Bill.

7.5 Reviewers' Meeting

For the first time, NAEAC, MPI staff and independent reviewers met in Wellington instead of by teleconference. One of the key objectives of the meeting was to allow the sharing that would maximise consistency of review findings.

7.6 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 2013, topics included:

- a decisional system for the ethical evaluation of animal experiments by animal research ethics committees (Alan Macleod, University of Otago);
- using zebrafish systems to model aspects of human disease and undertake drug discovery (Phil Crosier, University of Auckland);
- improved risk models for sudden cardiac death (Peter Larsen, NAEAC member);
- Landcare Research's animal testing to improve vertebrate pest control (Bruce Warburton, NAEAC member).

7.7 Liaison with Other Bodies

7.7.1 National Animal Welfare Advisory Committee

NAEAC maintains a close association with the activities of the NAWAC. NAEAC's chairperson, being an *ex officio* member of NAWAC, facilitates this inter-committee liaison.

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

NAEAC continues to work closely with 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. NAEAC and ANZCCART held a joint meeting in August 2013.

Appendix 1

Organisations with an Approved Code of Ethical Conduct or with Notified Arrangements to Use an Approved Code (As at 31 December 2013)

*Use another organisation's animal ethics committee

*Abacus Biotech Ltd
P O Box 5585
DUNEDIN 9058

AgResearch Ltd (3 AECs)
Ruakura Research Centre
Private Bag 3115
Waikato Mail Centre
HAMILTON 3240

*AgriHealth NZ Ltd
PO Box 46135
Herne Bay
AUCKLAND 1147

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

Alleva Animal Health Ltd
PO Box 34032
Birkenhead
AUCKLAND 0746

*Aloe Vera N Z Ltd
PO Box 74106
Greenlane
AUCKLAND 1546

Ancare Scientific Ltd
P O Box 76211
Manukau City
AUCKLAND 2241

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

*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

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

Auckland Zoological Park
Private Bag
Grey Lynn
AUCKLAND 1245

Bay of Plenty Polytechnic
Private Bag 12001
TAURANGA 3143

*Bayer New Zealand Ltd
P O Box 2825
Shortland Street
AUCKLAND 1140

*Biocell Corporation Ltd
PO Box 23610
Hunters Corner
AUCKLAND 2155

*Caledonian Holdings Ltd
PO Box 82
TAKANINI 2245

*Carne Technologies Ltd
PO Box 740
CAMBRIDGE 3450

*Cawthron Institute
Private Bag 2
Nelson Mail Centre
NELSON 7042

*Chapel Street Veterinary Centre
Ltd
209 Chapel Street
MASTERTON 5810

*Christchurch Polytechnic
Institute of Technology
P O Box 540
CHRISTCHURCH 8140

*Cognosco, Anexa Animal
Health
P O Box 21
MORRINSVILLE 3340

*Connovation Ltd
PO Box 58613
Botany
AUCKLAND 2163

*Cook, Trevor George
Totally Vets Ltd
25 Manchester Street
FEILDING 4702

*Cropmark Seeds Ltd
PO Box 16574
Hornby
CHRISTCHURCH 8441

*CRV Ltd
P O Box 176
Waikato Mail Centre
HAMILTON 3240

*CuroNZ Ltd
PO Box 8123
Symonds Street
AUCKLAND 1150

*Dairy Production Systems Ltd
P O Box 24132
Abels
HAMILTON 3253

*DairyNZ Ltd
Private Bag 3221
Waikato Mail Centre
HAMILTON 3240

Department of Conservation
P O Box 10420
The Terrace
WELLINGTON 6143

*Duir NZ Ltd
P O Box 959
Waikato Mail Centre
HAMILTON 3240

Eastern Institute of Technology
Private Bag 1201
Hawkes Bay Mail Centre
NAPIER 4142

*Elanco Animal Health
PO Box 259354
Botany
AUCKLAND 2163

*ES Plastics Ltd
PO Box 5682
Frankton
HAMILTON 3242

Estendart Ltd
Massey University
Private Bag 11222
Manawatu Mail Centre
PALMERSTON NORTH 4442

*FarmSense (NZ) Ltd
72 Pahiatua Street
Hokowhitu
PALMERSTON NORTH 4410

*FIL (New Zealand) Ltd
PO Box 4144
Mt Maunganui South
MT MAUNGANUI 3149

*Grace, Neville
26 Williams Road
RD 4
PALMERSTON NORTH 4474

*Hillcrest High School
P O Box 11020
Hillcrest
HAMILTON 3251

*Jackson, Bethany
Auckland Zoo
Private Bag
Grey Lynn
AUCKLAND 1245

*Jurox Pty Ltd
85 Gardiner Road
Rutherford
NSW 2320
AUSTRALIA

*Kahne Ltd
Level 3, Tower 2
205 Queen Street
Auckland Central
AUCKLAND 1010

*Karori Sanctuary Trust
P O Box 9267
Marion Square
WELLINGTON 6141

*Knowles, Garry & Rohloff,
Brent
TbFree New Zealand
PO Box 380
ALEXANDRA 9340

Landcare Research NZ Ltd
P O Box 69040
LINCOLN 7640

*Lawrence, David
374 Livingstone Road
RD 1
WINTON 9781

*LIC Deer Ltd
270 Ardlussa Road
RD 6
GORE 9776

*Life Technologies NZ Ltd
P O Box 12502
Penrose
AUCKLAND 1642

Lincoln University
P O Box 85084
Lincoln University
LINCOLN 7647

*Livestock Improvement
Corporation Ltd
Private Bag 3016
Waikato Mail Centre
HAMILTON 3240

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

*LWT Animal Nutrition Ltd
PO Box 119
FEILDING 4740

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

*Mason Consulting
317 Dunns Crossing Road
RD 8
CHRISTCHURCH 7678

Massey University
Private Bag 11222
Manawatu Mail Centre
PALMERSTON NORTH 4442

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

*Mesynthet Ltd
PO Box 31311
LOWER HUTT 5040

*MetriKlenz Ltd
PO Box 2
WINTON 9741

* MPI Investigation and
Diagnostic Centre
P O Box 40742
UPPER HUTT 5140

National Institute of Water
& Atmospheric Research Ltd
P O Box 147
RUAKAKA 0151

*Neill, Fleur
16 Frame Crescent
ROLLESTON 7614

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 National Fieldays
Society Inc
Private Bag 3015
Waikato Mail Centre
HAMILTON 3240

*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 New Zealand Ltd
Private Bag 65904
Mairangi Bay
AUCKLAND 0754

*Oamaru Veterinary Centre
311 Thames Street
OAMARU 7910

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

*Otago Polytechnic
Private Bag 1910
DUNEDIN 9054

*Ottoman, Garry
Game & Forest Foundation
PO Box 3981
CHRISTCHURCH 8140

*Parnell Corporate Services Pty
Ltd
4/476 Gardeners Road
Alexandria
NSW 2015
AUSTRALIA

*PGG Wrightson Consulting
PO Box 42
DANNEVIRKE 4942

*PGG Wrightson Seeds
P O Box 69175
LINCOLN 7640

*Pharmfirst Ltd
4 Wake Place
RD 1
PALMERSTON NORTH 4471

PharmVet Solutions
P O Box 302691
North Harbour
AUCKLAND 0751

*Quantec Ltd
PO Box 9466
Waikato Mail Centre
HAMILTON 3240

*SCEC Pty Ltd
PO Box 211
Northbridge
NSW 1560
AUSTRALIA

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

*SciLactis Ltd
Waikato Innovation Park
Ruakura Road
HAMILTON 3240

South Pacific Sera Ltd
P O Box 2117
TIMARU 7941

Southern Institute of Technology
Private Bag 90114
INVERCARGILL 9840

*Stemvet New Zealand Ltd
PO Box 916
TAURANGA 3140

*Synlait Milk Ltd
1028 Heselton Road
RD 13
RAKAIA 7783

*Techion Group Ltd
PO Box 5057
Moray Place
DUNEDIN 9058

Thermo Fisher Scientific
New Zealand
P O Box 658
Seventh Avenue
TAURANGA 3140

*Towers Consulting 27 Mansel Avenue Hillcrest HAMILTON 3216	*Veterinary Enterprises Group PO Box 83 TE AWAMUTU 3840	*Wellington Institute of Technology Private Bag 39803 Wellington Mail Centre LOWER HUTT 5045
*Trinity Bioactives Ltd PO Box 29015 Ngaio WELLINGTON 6443	*Veterinary Health Research Pty Ltd PO Box 9466 Waikato Mail Centre HAMILTON 3240	*West Coast Vets Ltd PO Box 231 GREYMOUTH 7840
*Unitec Institute of Technology Private Bag 92025 Victoria Street West AUCKLAND 1142	* VetLearn C/o Massey University Private Bag 11222 Manawatu Mail Centre PALMERSTON NORTH 4442	*Zoetis New Zealand Ltd 14 Normanby Road Mt Eden AUCKLAND 1024
*Universal College of Learning Private Bag 11022 Manawatu Mail Centre PALMERSTON NORTH 4442	*VetPlus Solutions Ltd PO Box 1237 TAUPO 3351	
University of Auckland Private Bag 92019 Victoria Street West AUCKLAND 1142	*VetSouth Ltd P O Box 12 WINTON 9741	
University of Canterbury Private Bag 4800 CHRISTCHURCH 8140	*ViaLactia BioSciences Ltd PO Box 109185 Newmarket AUCKLAND 1149	
University of Otago (3 AECs) P O Box 913 DUNEDIN 9054	Victoria University of Wellington P O Box 600 WELLINGTON 6140	
University of Waikato Private Bag 3105 Waikato Mail Centre HAMILTON 3240	*Virbac New Zealand Ltd 30 Stonedon Drive East Tamaki AUCKLAND 2013	
Valley Animal Research Centre ¹ PO Box 2648 Stortford Lodge HASTINGS 4153	Waikato Institute of Technology Private Bag 3036 Waikato Mail Centre HAMILTON 3240	
*Vet Nurse Plus PO Box 217106 Botany Junction AUCKLAND 2164	*Wanganui Veterinary Services Ltd PO Box 911 Wanganui Mail Centre WANGANUI 4540	
*Vet Resource Ltd 316 Pokuru Road RD 5 TE AWAMUTU 3875		

¹ Code suspended at request of code holder.

Appendix 2

Codes of Ethical Conduct Revoked and Notified Arrangements Terminated

(As at 31 December 2013)

Agri-Feeds Ltd	Embrionics Ltd	McGuire, Paul (Calf Collection Services)
Agriculture New Zealand Ltd	Equine Fertility Services Ltd	Meat Industry Research Institute of New Zealand
AgriBios Biologicals Ltd	Ethical Agents Ltd	Medlab Hamilton
AgriScience Consulting	Falkirk Scientific Foundation Ltd	Ministry of Forestry
AgVax Developments Ltd	Feral R & D Ltd	Mulvaney, Christopher John
Agvet Consultants Ltd	Fonterra Innovation	National College of Security Personnel and Technology
Alexander and Associates	Fort Dodge NZ Ltd	Nelson Hospital
AM2 and Associates	Four Rings Enterprises Ltd	Neuren Pharmaceuticals Ltd
Ancrum Consultancies	Geneco Ltd	New Zealand Aluminium Smelters Ltd
Anderson, Peter V A	Genesis Research and Development Corporation Ltd	New Zealand Institute of Advanced Laparoscopic Surgery
Anndrogenix Ltd	Get Real Productions	New Zealand Sheepac Ltd
Animal Control Products Ltd	Grasslands Division, DSIR	New Zealand Trade and Enterprise (formerly Industry New Zealand)
Animal Health Advisory	Green Lane & National Women's Hospitals	New Zealand Water Management Ltd
Animal Health Services Centre	Gribbles Veterinary Health Waikato	New Zealand Wildlife Rehabilitation Trust
Animalz Napier Ltd	Hutt Hospital	Newall, Michael Douglas
Arthur Webster (New Zealand) Pty Ltd	ICPbio Ltd	Orana Park Wildlife Trust
Aspiring Animal Services Ltd	ImmunoEthical Associates (NZ) Ltd	P A Biologicals NZ
AsureQuality NZ Ltd	Impian Technologies Ltd	Palmerston North Campus, DSIR
Auckland Area Health Board (formerly Auckland Hospital Board)	Info-Brok	Palmerston North Hospital Board (later known as Manawatu-Wanganui Area Health Board)
Autogenous Vaccines	Innate Therapeutics Ltd	Parkway College
Baker, Allan J	Institute of Environmental Science and Research Ltd	Paxarms
Baldock, Anne K	InterAg	Pest Control Research Ltd
BioLogic Scientific Consulting Ltd	Intervet NZ Ltd	Pest-Tech Ltd
Bioscience Corporation Ltd	IVP International New Zealand Ltd	Pfizer Pty Ltd
Biotechnology Division, DSIR	Johnson & Johnson (New Zealand) Ltd	Pharma Pacifica
Bishop Viard College	Kelly Tarlton's Antarctic Encounter and Underwater World	Photonz Corporation Ltd
Bomac Research Ltd	KODE Biotech Ltd	Plade Holdings Ltd
Canesis Network Ltd	Kotare Bioethics Ltd	PPL Therapeutics (NZ) Ltd
Captec (NZ) Ltd	Kristin School	Protomix Corporation Ltd
Central Institute of Technology	Lakeland Vets Ltd	Queen Margaret College
Chemeq Ltd	Longburn Adventist College	Rhône-Poulenc (NZ) Ltd
Cooks Laboratories	Lowe Walker Hawera Ltd	
Coopers Animal Health New Zealand Ltd	Marlborough Regional Science & Technology Fair Committee	

RisqA Veterinary Consulting
Robbins, Lloyd
Roche Products NZ Ltd
Rotorua District Veterinary Club
Saint Mary's College
Salmond Smith Biolab Ltd
Samuel Marsden Collegiate School
Scots College
Shell Chemicals New Zealand Ltd
Silver Fern Farms 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
Tegel Foods Ltd
The New Zealand King Salmon Company Ltd
The New Zealand Merino 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
Wakefield Gastroenterology Research Trust
Ward, Christopher G
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

NAEAC/MPI publications relevant to the use of animals in research, testing and teaching

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 MPI's website at <http://www.mpi.govt.nz>

NAEAC Annual Reports

NAEAC Guides

- Guide to the Preparation of Codes of Ethical Conduct (February 2012)
- Good Practice Guide for the Use of Animals in Research, Testing and Teaching (June 2010)
- Guidelines for the Welfare of Livestock from which Blood is harvested for Commercial and Research Purposes (March 2009)
- A Guide for Lay Members of Animal Ethics Committees (March 2007)
- A Culture of Care: A Guide for People Working with Animals In Research, Testing and Teaching (October 2002).

NAEAC Occasional Papers

See section 6.4

Availability

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

<http://www.biosecurity.govt.nz/regs/animal-welfare/pubs/animals-used-in-research>

or by contacting:

Animal Welfare
Ministry for Primary Industries
PO Box 2526
Wellington 6140
New Zealand

Phone **0800 00 83 33** or email: animalwelfare@mpi.govt.nz

Appendix 4

NAEAC Policies and Guidelines

- Guidelines for animal ethics committees on adequate monitoring
- Guidelines for avoiding needless duplication of animal use in research
- Guidelines on application templates used by animal ethics committees
- Site visit guidelines
- Commercial cloning
- Conflict of interest
- Interpretation of 'scientific community' in relation to appointment of lay members
- Killing as a manipulation as it relates to Part 6 of the Animal Welfare Act
- Providing assistance to new animal ethics committees
- Production of genetically-modified animals
- Which animal ethics committee should assume the approval role?

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 David R MORGAN
Landcare Research NZ Ltd
PO Box 69040
LINCOLN 7640
Phone: 03-3219750
Fax: 03-3252418
Email: morgand@landcareresearch.co.nz

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

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

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

Dr John C SCHOFIELD
64 Doon Street
Vauxhall
DUNEDIN 9013
Phone: (03) 4543854
Email: johnawo@xtra.co.nz

Dr Alan B MACLEOD
7 Carlyle Road
MOSGIEL 9024
Phone: 022 1301273
Email: alanbmacleod@yahoo.com

Appendix 6

Ministry for Primary Industries Animal Use 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 MPI by 28 February each year. In addition, the regulations empower the Director-General of MPI or any inspector appointed under the Animal Welfare Act 1999 to obtain copies of records or details from them at any time. The regulations provide penalties for non-compliance, including late submission of returns or supplying false or misleading figures.

Records of the number of animals used in long-term projects are not reported annually to MPI 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 MPI.

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

N.B. The 2012 total noted in this report (302 193) differs from that published in the 2012 annual report, where it was given as 301 964. The error lay in some mistakes reported by a single institution which were discovered during an internal audit. Comparisons between 2012 and 2013 in this report have been made against the amended 2012 figures.

App 6.1 Summary of 2013 Animal Use Statistics

A total of 224 048 animals used in research, testing and teaching were reported in 2013, a 25.9 percent decrease over the previous year, the lowest number since 1997 and the lowest number under the current legislation. The rolling 3-year average was also down.

The most commonly reported species in 2013, as it was in 2012, was cattle, making up 51.4 percent of the farm animals used, and 23.3 percent of the total number. Sheep replaced mice as the second most common species in 2013, making up 20.6 percent of the total. Mice (20.1 percent) and fish (10.9 percent) were the third and fourth most commonly used species. In terms of species groupings, production animals (cattle, sheep, deer, goats and pigs) made up 45.3 percent of the total, with rodents and rabbits together accounting for 26.5 percent. Numbers of all species reported fell except for sheep, cephalopod/crustacea, marine mammals, “other” species, dogs, guinea pigs and rats.

Veterinary research (35.3 percent), basic biological research (18.6 percent), animal husbandry research (17.8 percent) and production of biological agents (14.3 percent) were the main reasons for using production animals, accounting for 87 302 animals (86.0 percent of the total for these species). Just over 86 percent of the rodents were used in testing the safety and efficacy of animal health products, medical research and basic biological research. The majority of birds were used for species conservation and environmental management research (68.3 percent).

Over 75 percent of animals were exposed to manipulations which had no, virtually no, or little impact on the animals' welfare. A total of 15 772 animals (7.0 percent of the total) experienced manipulations of "high impact" or "very high impact", 995 fewer than in 2012, and the lowest number in these categories since 2004. The species that experienced a "very high" impact were rodents, birds and pest species.

New Zealand's usage of animals classified as transgenic/chimera is low by world standards, with only 2868 such animals used in 2013. This was 5915 fewer than in 2012.

More than 64 percent of animals returned to their normal environment following their use in manipulations. More than 97 percent of production animals remained alive following use. However, nearly 97 percent of rabbits and rodents were 'dead or euthanased' following manipulation.

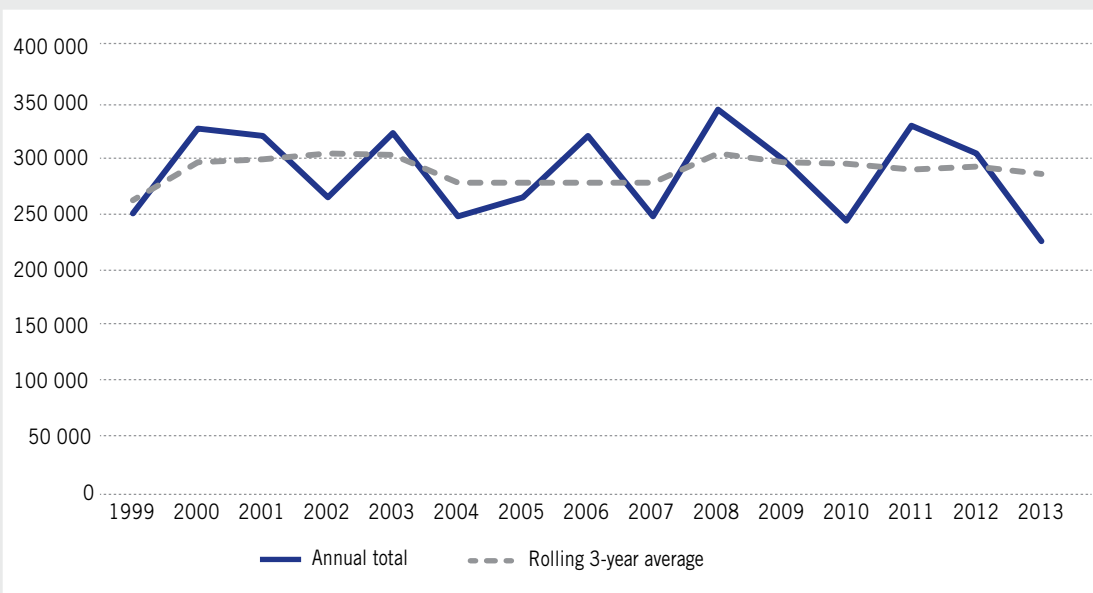
App 6.2 Animal Usage

During 2013, a total of 224 048 animals¹ were reported as manipulated² in research, testing and teaching³. This was a decrease of 25.9 percent compared to 2012, when 302 193⁴ animals were reported, and the lowest number recorded since 1997.

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 annually but rather every three years when the project is completed or AEC approval of the project expires, whichever comes first. A truer reflection of overall use is given by the three-year rolling average, also down in 2013.

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); between 2008 to 2010 it was around 294 000 (242 149 to 341 520); and in the last three years the rolling average was around 284 000 (224 048 to 326 770).

Animals manipulated between 1999 and 2013



1 As defined in section 2(1) of the Animal Welfare Act 1999.

2 As defined in section 3 of the Animal Welfare Act 1999.

3 As defined in section 5 of the Animal Welfare Act 1999.

4 The discrepancy in the 2012 figures between this report and the previous one are due to an error in the 2012 reporting by one institution.

Those species most commonly reported in 2013 were (in order) cattle, sheep, mice and fish, which collectively accounted for 74.9 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. The other species making up this group in those 24 years have been fish (in 12 years), rats (in seven years) and birds (in five years).

The fall in numbers in 2013 was reflected in all species except sheep, cephalopod/crustacea, rats, dogs, “other species”, marine mammals and guinea pigs. The largest decrease was recorded in the number of cattle (–72 389, a 58.1 percent decrease), followed by mice (–10 852, a 19.4 percent decrease), fowls/chickens (–5718, a 62.2 percent decrease), reptiles (–4358, an 81.5 percent decrease), fish (–3690, a 13.2 percent decrease), possums (–2944, a 52.9 decrease), amphibia (–1783, an 88.2 percent decrease), deer (–1611, a 41.0 decrease), goats (–987, a 62.9 percent decrease), horses (–486, a 64.1 percent decrease), rabbits (–133, an 8.8 percent decrease), pigeons (–69, a 32.2 percent decrease), pigs (–28, a 10.6 percent decrease) and cats (–19, a 2.7 percent decrease). The largest numerical increase was reported for “other birds”, (+16 834, a 318.0 percent rise). The other species with higher numbers were sheep (+7674, up 19.9 percent), cephalopod/crustacea (+1197, a 27.9 percent rise), dogs (+522, up 36.3 percent), rats (+283, a 2.7 percent rise), “other species” (+149, a rise of 60.8 percent), marine mammals (+144, a rise of 18.4 percent) and guinea pigs (+119, a 5.7% rise).

Overall, the use of agricultural livestock decreased by 39.9 percent (–67 341), mainly due to the drop in cattle numbers after three major projects had been reported in the previous year. The drop in agricultural species numbers was only partially offset by the rise in the number of sheep. Cattle were still the most numerous (51.4 percent) of the agricultural livestock, with the greatest number, 41.0 percent, reported as used for veterinary research. The fall in the number of goats was mainly due to 1529 fewer animals reported as used for the production of biological products. The fall in deer numbers was largely attributable to fewer animals being used in animal husbandry (–1113) and veterinary research (–450). More sheep were used for veterinary research (+11 397), production of biological products (+11 181), testing (+3720) and environmental management (+958). Fewer were used for animal husbandry research (–16 344) and teaching (–1175).

The number of rabbits used fell by 8.8 percent (–133), mainly due to fewer being used for testing (–192), medical research (–78) and basic biological research (–71), although 199 were reported as used in the production of biological agents compared to none in the previous year.

Rodent use fell by 15.3 percent (–10 450), mainly due to decreased use in medical research (–12 254). This was offset to some extent by increased numbers reported as used for testing (+4413).

The decrease in fish numbers in 2013 was largely due to the drop in the numbers reported for use in basic biological research (–3412) and environmental management (–2072). The other main areas where fish were used were for teaching (4 646) and animal husbandry (1601).

Bird use rose from 14 638 in 2012 to 25 685 in 2013, with the number of “other birds” rising 318 percent to 22 127. “Other birds” were mainly used environmental management (10 069), species conservation (7430) basic biological research (2825) and veterinary research (1750). Fewer fowls and chickens were used in basic biological research (–7359) but 1942 more were reported used for veterinary research.

The significant decrease in numbers of possums reported in 2013 was largely due to a drop of 4225 in use for basic biological research, partially offset by a rise in numbers for environmental management (+1420). The number of reptiles reported also fell substantially, with 2292 fewer being used for species conservation and 2148 fewer for basic biological research. Similarly, the numbers of amphibia fell, with 1521 fewer used for basic biological research and 282 fewer for species conservation. The increase in numbers of marine mammals was for the purposes of species conservation (+276) and environmental management (+67). No marine mammals were used for teaching or basic biological research in 2013 as they had been in 2012. The

rise in numbers of cephalopod/crustacea was mainly due to 1135 more being used for teaching. Other uses for cephalopod/crustacea included basic biological research (971) and environmental management (352).

The majority of dogs were used for veterinary research (50.2 percent) and teaching (29.4 percent). Dogs were also used for medical research (7.5 percent), testing (5.5 percent), basic biological research (4.9%) and “other” purposes (2.5 percent). Veterinary research (55.9 percent) and teaching (39.8 percent) were also the major uses for cats, although this species was also manipulated for basic biological research purposes (3.7 percent) and environmental management (0.6 percent). Fewer horses were reported as used in the production of biological agents in 2013 (-721). Most were used for teaching (43.8 percent) and veterinary research (25 percent).

In 2013, 394 animals were reported in the “miscellaneous species” category, up from 245 in 2012. They included 265 bats for basic biological research; 65 mustelids (stoats and ferrets) used for environmental management and basic biological research; 36 *Dama* wallabies used for “other” purposes; 11 wild dogs (*Lycan pictus*) used for species conservation; six hedgehogs for basic biological research; six alpaca for basic biological research; and five 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.

App 6.3 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	2013	2012
	%	%
Farms	37.8	54.3
Breeding units	26.1	23.1
Captured	13.2	13.0
Commercial sources	9.1	4.0
Born during project	7.6	3.8
Public sources	6.1	1.6
Imported	<0.1	0.1

The number of animals sourced from farms in 2013 decreased by 79 283 animals, or 48.3 percent, reflecting the lower cattle numbers. Fewer animals were sourced from breeding units (-11 308, down 16.2 percent), while the number captured also fell by 9700 or 24.7 percent. These included other birds (11 743), fish (7355), cephalopod/crustacea (5088), possums (2099), marine mammals (927), reptiles (838), mice (670), rats (395), “other” species (364), amphibia (149) and ten cats. Only 83 animals (70 mice, eight amphibia, three rats and two rabbits) compared to 448 were imported during 2012. More animals were obtained from public sources (+176.8 percent) and commercial enterprises (+68.2 percent), while 5456 more animals (+47.1 percent) were born during projects.

In 2013, 91.2 percent of farm animals were sourced from farms or commercial organisations, with a

further 8.3 percent –7602 sheep, 542 deer, 192 cattle and 90 goats – born during projects. Farm animals were also sourced from public sources (0.3 percent) and breeding units (0.2 percent). Reflecting New Zealand’s focus on agricultural research, farm animals were used by 52 organisations or individuals (hereafter referred to as organisations), 33 of which used only sheep and/or cattle.

The majority of rodents (93.6 percent) (used by 32 organisations) and rabbits (88.0 percent) (used by 18 organisations) came from breeding units, and together accounted for 95.1 percent of all animals from that source in 2013. Rodents were also born during projects (2.5 percent), captured (1.8 percent), obtained from public sources (1.1 percent), obtained from commercial sources (0.8 percent), and imported (0.1 percent). Rabbits were also obtained from public sources (6.3 percent) and from commercial sources (5.5 percent). Two rabbits were imported.

Capture was the main method for obtaining fish (30.2 percent) although this was 9179 fewer than were captured in 2012. Fish, used by 16 organisations, were also born during projects (28.5 percent), or obtained from commercial sources (21.2 percent), from farms (11.0 percent), from breeding units (8.6 percent) and public sources (0.4 percent). All the 927 marine mammals (used by 3 organisations) were classified as “captured”.

“Other birds”, i.e. birds excluding chickens and pigeons and used by 20 organisations, made up 86.1 percent of total birds used, with the most being classified as either captured (53.1 percent) or obtained from public sources (46.2 percent). The majority of chickens, which made up 13.3 percent of total birds used and were used by 14 organisations, were obtained from commercial sources (92.6 percent), with the remainder coming from farms (5.4 percent), breeding units (1.0 percent), public sources (0.9 percent) or born during projects (0.1 percent). Most pigeons, used by 5 organisations, were obtained from public sources (98.0 percent), with three sourced from commercial organisations.

The amphibia (used by 5 organisations), cephalopods/crustaceans (8 organisations), possums (7 organisations), and reptiles (9 organisations) were mostly captured. Dogs (18 organisations) were obtained from public sources (73.8 percent), from farms (16.8 percent), born during projects (5.6 percent), from breeding units (3.1 percent) or from commercial sources (0.6 percent). Cats (used by 16 organisations) came from public sources (71.4 percent) and breeding units (27.1 percent), with ten captured. Horses were used by a total of 11 organisations and supplied from farms (59.6 percent), public sources (38.6 percent) and breeding units (1.8 percent).

App 6.4 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	2013	2012
	%	%
Normal/conventional	87.5	89.2
Protected species	4.7	2.9
SPF/germ-free	3.1	3.9
Unborn/pre-hatched	2.5	1.0
Transgenic/chimera	1.3	2.9
Other	0.9	<0.1
Diseased	0.1	<0.1

As in previous years, the majority (87.5 percent) of animals manipulated in RTT in New Zealand in 2013 were classified as normal, healthy, conventional animals, although numbers of these were 73 589 fewer than in 2012.

More animals with protected species status were manipulated in 2013 (+1812). The rise was mostly due to a 234.9 percent increase in the number of “other birds” to a total of 8758. Other protected species reported as manipulated for RTT in 2013 included marine mammals (904), reptiles (767) and amphibia (28).

Fewer animals manipulated for RTT had a specific pathogen-free (SPF) or germ-free status than in 2012 (-4827). Most of these animals were mice (81.5 percent) and rats (18.5 percent), but five goats were also included in this group.

The number of animals in the unborn/pre-hatched category increased by 2564. Most of these were chicken eggs (2746) or fish eggs (2500), with the remainder made up of unborn sheep (4.0 percent of the total), unborn rats (2.6 percent of the total) and unborn mice (0.7 percent of the total).

The number of animals classified as transgenic/chimera fell by 5915 or 67.3 percent from 2012. The majority of these were mice (74.5 percent) and fish (21.2 percent), with goats (3.1 percent), cattle (0.7 percent) and rats (0.5 percent) making up the total. Five organisations used transgenic/chimera animals in 2013, one more than in 2012. Reflecting our relatively small biomedical research industry, New Zealand’s usage of this category of animal is low by world standards.

Numbers of animals with a “diseased”⁵ status rose by 98 to 263 in 2013. These included sheep (95), dogs (79), cattle (64), cats (22) and rats (3).

App 6.5 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. 64.0 percent of animals remained alive after use. Of these 59.1 percent were returned to owners, 22.4 percent were released to the wild, 9.9 percent were retained by the institution, and 8.5 percent were disposed of to others. The majority of animals released to the wild were “other birds” (68.1 percent), cephalopod/crustacea (12.2 percent) and fish (10.5 percent).

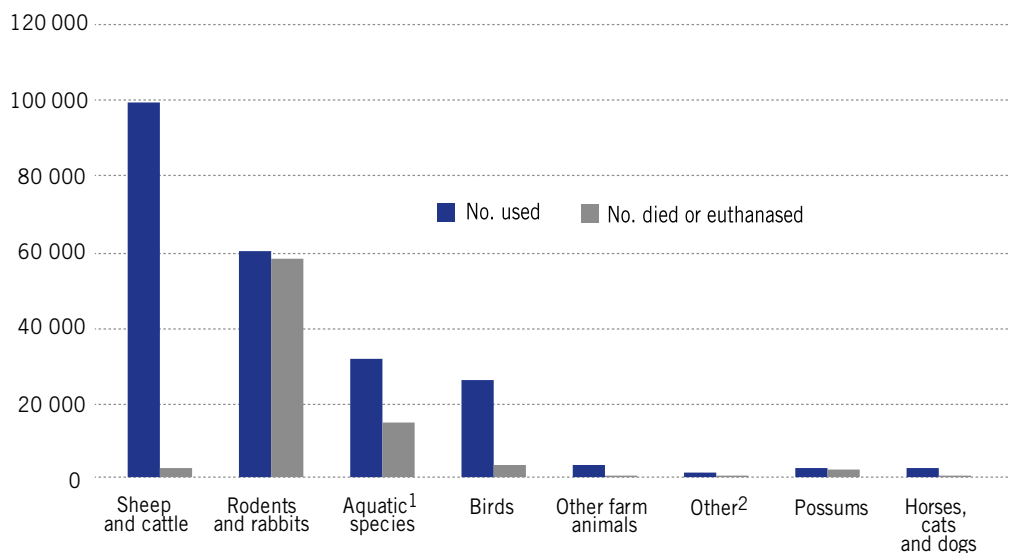
The number of animals that died or were euthanased during, or after, manipulations in 2013, fell by 8513 to 80 581, although this was a higher proportion of the total (36.0 percent) than in 2012.

The high survival rates (97.2 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. On the other hand, only 3.2 percent of rodents and rabbits remained alive following projects.

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

⁵ Animals afflicted with naturally occurring disease, the focus of study usually being the cause, effects, cure or prevention of the disease.

Animal use by species reported in 2013

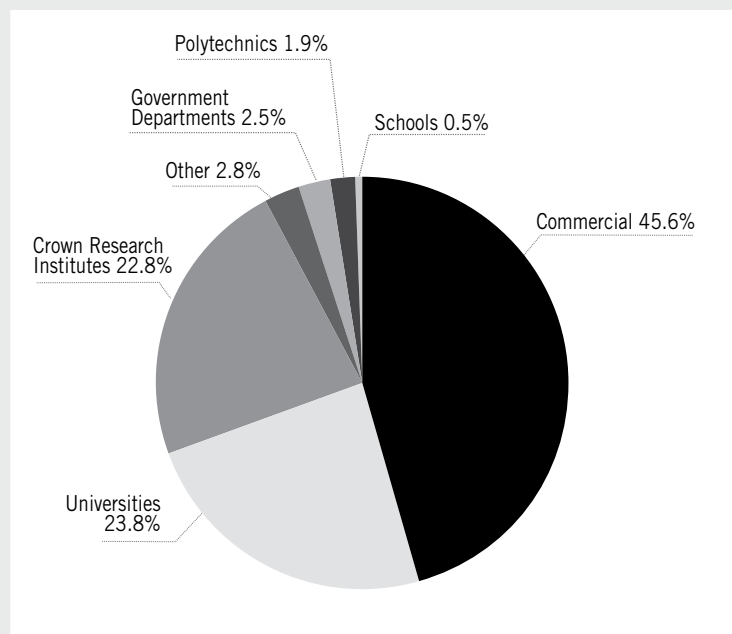


1 'Aquatic species' includes amphibia, fish, marine mammals and cephalopods/crustaceans.
 2 'Other' includes reptiles and miscellaneous species as described in Appendix 6.2 of this report.

App 6.6 Organisation Type

Appendix 8 tabulates animal usage by organisation type over the past five years. The pie chart below shows the 2013 information graphically. The top three user groups in 2013 were (in order) commercial organisations, universities and CRIs, the same as in the previous five years.

Animal usage by organisation type



Commercial organisations used 46 822 fewer animals than in 2012. Animals reported by commercial organisations were used for testing (28.4 percent), veterinary research (22.0 percent), production of biological agents (17.1 percent), basic biological research (12.9 percent), environmental management (10.0 percent), animal husbandry research (5.1 percent), teaching (2.8 percent), “other” purposes (1.0 percent) and medical research (0.6 percent).

Universities reported 27 043 fewer animals in 2012. Animals reported by universities were used for basic biological research (42.9 percent), medical research (17.7 percent), teaching (12.3 percent), veterinary research (11.4 percent), animal husbandry research (6.7 percent), environmental management (5.0 percent), species conservation (2.3 percent), testing (0.9 percent), “other” purposes (0.6 percent) and production of biological agents (0.1 percent).

CRIs’ animal use rose by 13.0 percent to 51 097 in 2013. Animals reported by CRIs were used for basic biological research (31.9 percent), animal husbandry research (22.0 percent), veterinary research (20.5 percent), species conservation (12.5 percent), environmental management (8.6 percent), testing (2.2 percent), medical research (1.1 percent), “other” purposes (0.9 percent), teaching (0.2 percent) and production of biological agents (<0.1 percent).

Organisations in the ‘other’ category include non-university medical research institutes, zoos/wildlife parks and individuals. The number of animals reported from this sector fell 67.0 percent to 6182 in 2013. The vast majority of these (97.5 percent) were mice used for medical research. Other animals were used for species conservation (62), veterinary research (52), teaching (24) and basic biological research (19).

Government departments reported the use of 5656 animals in 2013, compared to 195 in 2012. The majority of these (79.5 percent) were birds, including chicken eggs, used for veterinary research, specifically, for investigation and surveillance of exotic avian diseases. Other animals used by government departments were for species conservation (1106) and “other” purposes (54).

Polytechnics and institutes of technology reported 1523 fewer animals in 2013 compared with 2012. The wide variety of animals manipulated by this sector were nearly all (95.8 percent) used for teaching, usually for low impact animal husbandry / veterinary nursing or similar training. Other animals were used for animal husbandry research (113) and basic biological research (71).

The use of animals in RTT in schools fell 56.2 percent to 1216 in 2013. The wide range of animals, including cephalopods/crustaceans (1122), chickens (39), fish (17), mice (16), rats (13), dogs (6), cats (2) plus one horse were all used for teaching purposes.

App 6.7 Animal Reuse

In 2013, 8.1 percent of animals were used more than once for RTT. This the highest proportion of re-use since 2000 when 17 percent of animals had been used more than once. The average rate of re-use since 1999 when this measure was first recorded is 6.6 percent. Domestic animals (including livestock) made up 76.9 percent of the animals that were reused, with 39.1 percent of amphibia and 20.7 percent of pigeons also being re-used. With the exception of pigs and marine mammals, numbers of every animal species were reported as being used more than once in 2013.

App 6.8 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 2013 figures with those reported in 2012. Descriptions of the “purpose of manipulation” categories are outlined in Appendix 9.

Purpose of manipulation	% of animals used	
	2013	2012
Basic biological research	23.4	23.5
Veterinary research	19.5	34.2
Testing	13.7	7.6
Animal husbandry	9.0	12.4
Production of biological agents	7.9	1.9
Environmental management	7.7	2.1
Medical research	7.5	9.4
Teaching	6.7	6.3
Species conservation	3.9	1.9
Other	0.8	0.4
Development of alternatives	0	0.5

The main purpose for which animals were manipulated in 2013 was for basic biological research, although the numbers in this category fell 26.4 percent to 52 373. The fall was mainly due to less use of chickens (–7359), possums (–4225), fish (–3412), reptiles (–2142) and sheep (–2102) in this category. The numbers of mice, amphibia, deer, rabbits, pigeons, cephalopod/crustacea, marine mammals, rats and guinea pigs also fell. The largest rise was in the number of cattle used for basic biological research (+3465). Numbers of other birds, “other” species, pigs, dogs and cats also rose in this category. No goats and again no horses were reported used for basic biological research in 2013. Universities (43.6 percent), CRIs (31.1 percent) and commercial organisations (25.1 percent) conducted the bulk of this research, with “other” organisations and polytechnics using the remaining 90 of the 52 373 animals altogether in this category.

In 2012, the highest proportion (34.2 percent) of animals were manipulated for the purposes of veterinary research, but numbers in this category fell by 59 587 (57.8 percent) to 43 584 in 2013. Apart from a rise of 11 397 in the number of sheep in this category, numbers of cattle (–74 643), deer (–450) and pigs (–84 to zero) fell. As in 2012, no goats were used for veterinary research. More chickens (+1942), other birds (+1655), mice (+595), dogs (+223), cats (+14), rats (+10) and possums (+9) were used for veterinary research, while numbers for horses (–168), rabbits (–19) and guinea pigs (–13) fell. Veterinary research was undertaken by commercial organisations (51.6 percent), CRIs (24.0 percent), universities (13.9 percent), government departments (10.3 percent) and “other” organisations (0.1 percent).

The number of animals manipulated for the purposes of testing rose from 22 823 reported in 2012 to 30 674 in 2013, a 34.4 percent increase. The increase can largely be attributed to a rise in the number of rodents (+4413) and farm animals (+3753). Rabbits and rodents accounted for the majority (76.6 percent) of the animals used in this category, with farm animals (6311 sheep and 799 cattle) accounting for a further 23.2 percent. Other animals used for testing included 79 dogs and one bird. Commercial organisations carried out 94.8 percent of the testing reported in 2013, with the remainder done by CRIs (3.7 percent) and universities (1.6 percent).

A total of 20 203 animals were reported as used for animal husbandry research in 2013, a 49.5 percent drop from the previous year. Farm animals made up 90.0 percent of this category – 8153 sheep, 8072 cattle, 1812 deer, 40 pigs and 12 goats. Other species reported in 2013 as manipulated for animal husbandry include fish (1601), chickens (260), mice (225), reptiles (11), other birds (10), rats (3) and two each of guinea pigs and rabbits. CRIs (55.7 percent), commercial organisations (25.9 percent), universities (17.7 percent) and polytechnics (0.6 percent) reported manipulating animals for animal husbandry purposes in 2013.

The number of animals reported as utilised in the production of biological agents rose over 200 percent to 17 616 in 2013. Farm animals (cattle goats and sheep) made up 82.3 percent of the animals in this category, with mice (2713), rabbits (199), guinea pigs (160) and horses (49) making up the remainder. Commercial organisations carried out 99.5 percent of this work, with CRIs and universities carrying out the remaining 0.5 percent.

Environmental management research used 17 302 animals in 2013, 11 034 more than in 2012. This was mainly due to a rise in numbers of other birds to 10 069 from six the previous year, making this the main species (58.2 percent) used in the category. Other species used for environmental management were possums (2362), fish (1686), sheep (978), rats (722), mice (652), cephalopod/crustacea (352), cattle (179), goats (143), marine mammals (67), other species (47), chickens (41) and cats (4). Commercial organisations (59.2 percent), CRIs (25.5 percent) and universities (15.3 percent) all undertook environmental research.

The number of animals reported as being manipulated for medical research fell from 28 258 to 16 698 in 2013. Rabbits and rodents made up 90.0 percent of the total, although numbers of these species in this category fell 12 332 over 2012. Other animals manipulated in this category included 691 fish, 578 sheep, 177 goats, 112 chickens, 108 dogs, six amphibia and four pigs. Medical research was undertaken by universities (56.5 percent), “other” organisations (36.1 percent), commercial organisations (3.9 percent) and CRIs (3.5 percent).

The number of animals reported as used in teaching fell 21.4 percent in 2013 to 14 959. All species except marine mammals and possums were used for teaching purposes. The most common species used were fish (4646), cephalopod/crustacea (3998) and cattle (3268). Universities reported most animal use in teaching in 2013, accounting for 43.9 percent of the total compared to 31.0 percent in 2012. Other organisations involved in teaching were polytechnics (27.9 percent), commercial organisations (19.3 percent), schools (8.1 percent) and CRIs (0.6 percent).

Animal numbers reported for species conservation in 2012 rose 55.1 percent to 8796. These were made up of other birds (7430), marine mammals (860), reptiles (207), mice (160), fish (125) other species (11) and three pigeons. Work in this area was undertaken by CRIs (72.5 percent), universities (14.2 percent) and government departments (12.6 percent).

Animals reported as used for purposes other than those already specified rose 61.8 percent to 1843 in 2013. These included 1395 farm animals, 164 cephalopod/crustacea, 122 rats, 36 dogs, 36 horses, 36 other species, 36 pigeons and 18 chickens. Research in the “other” category was undertaken by commercial organisations (54.6 percent), CRIs (26.1 percent), universities (16.4 percent) and government departments (2.9 percent).

No animals were reported as used in the development of alternatives in 2013.

App 6.9 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 MPI publication *Animal Use Statistics* and is available on the website

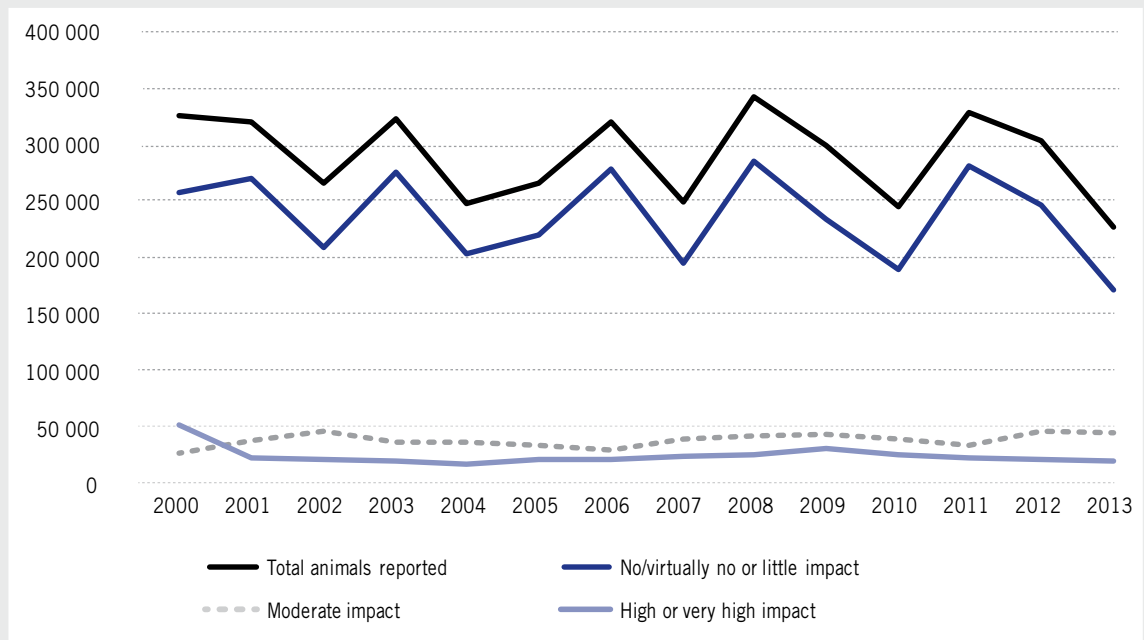
<http://www.biosecurity.govt.nz/files/regs/animal-welfare/pubs/naeac/2013-animal-use-statistics-web.pdf>

Appendix 10 summarises the impact grade allocated to animals manipulated for RTT and reported in 2013.

App 6.9.1 Long-term trends of the impact of RTT on the animals used in New Zealand

The percentage of animals that experience “no/virtually no” or “little impact” has averaged 81.1 percent since 2000 with a range from 75.2 percent to 87.0 percent. In 2013, 75.2 percent (168 446) of animals were exposed to manipulations in these categories.

Impact of manipulations on animals used for RTT over the last 12 years



The percentage of animals that experience “moderate impact” has averaged 12.0 percent over the last 14 years with a range from 6.7 percent to 17.8 percent. In 2013, 17.8 percent (39 830) of animals were classified in this category.

The percentage of animals that experience “high impact” or “very high impact” has averaged 6.9 percent over the last 14 years with a range from 4.8 percent to 14.7 percent. In 2013, a total of 15 772 animals (7.0 percent of the total) experienced manipulations in these categories, the lowest number in this category since 2004.

App 6.9.2 Manipulation grading of animals reported in 2013

The decrease in the number of animals manipulated for RTT in 2013 was reflected across all manipulation gradings except the “very high impact” category. Compared to 2012 statistics, numbers fell by 29.0 percent (–43 919) in the “little impact” category, by 34.3 percent (–31 943) in the “no or virtually no impact” category, by 33.7 percent (–2293) in the “high impact” category and by 3.1 percent (–1288) in the “moderate impact” category. Numbers rose in the “very high impact” category by 13.0 percent (+1298) in 2013.

Nearly 92 percent of farm animals fell into the “no/virtually no” or “little impact” category, as did 95.6 percent of other domestic mammals (cats, dogs and horses), 96.4 percent of rabbits, 86.6 percent of miscellaneous species, 72.1 percent of birds, 39.5 percent of rodents and 14.7 percent of “other” species. The largest percentages of groups represented in the “moderate impact” category were “other” species (67.3 percent) and rodents (39.7 percent). Birds (23.7 percent), farm animals (8.1 percent), miscellaneous species (6.1 percent), other domestic mammals (4.2 percent) and rabbits (3.6 percent) were also recorded as experiencing moderate impact on their welfare. Details of animals recorded in the “high” or “very high impact” category are shown below.

Summary of impact of manipulations in animals used for RTT in 2013

2013 summary	Total reported	No/virtually no impact	Little impact	Moderate impact	High impact	Very high impact
Rodents and rabbits	59 419	3202	21 047	23 073	1 490	10 607
Sheep and cattle	98 411	35 208	55 416	7 771	16	0
Aquatic species ¹	31 004	9 159	19 610	1 808	427	0
Other domestic species	5 518	810	4 174	530	0	4
Birds	25 685	12 491	6040	6 091	1 001	62
Possums	2 626	124	140	268	1 526	568
Other ²	1 385	75	950	289	46	25
Grade totals	224 048	61 069	107 377	39 830	4 506	11 266
Grade percentages		27.3%	47.9%	17.8%	2.0%	5.0%

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

2 'Other' includes reptiles and miscellaneous species as described in App 6.2.

Animals featuring in the “very high” impact group were rodents, fish, pest species and birds.

Animals in this and the “high” impact grades were manipulated in the following ways:

- Fish were used in research into recreational fishing e.g. in estimating the survival of undersize fish caught and released in recreational fishing. Fish were also used in behavioural studies of pest species, and for quality control in ecotoxicology testing.
- Most birds were used in projects that required their capture and sampling, deemed very stressful for wild birds despite their subsequent release.
- Cattle were used in investigating selection for genetic tolerance facial eczema. Two calves were reported as high impact because they contracted severe scours prior to being placed on a study and were euthanased on compassionate grounds.
- Possums, rats, mice and other pest species were used in various studies designed to improve effectiveness and humaneness of pest control methods. Chickens were used as surrogates for native birds to assess toxicity in non-target species. Some of these projects are largely driven by the quest to find alternatives to sodium monofluoroacetate (1080).
- The majority of guinea pigs were used in batch release testing for animal vaccines. This is a regulatory requirement to demonstrate potency. The remainder were used in veterinary research, and production & evaluation of biological reagents.
- Mice were used:
 - in testing antigens and animal vaccines mandated by regulation;
 - in medical research, specifically in trialling an immunisation technique for the intracranial tumour model for human glioblastoma;
 - in research to assess their impact on biodiversity;
 - in testing for natural food contaminants;
 - in vaccine development;
 - in a pilot study looking at the treatment of colitis;
 - in production and evaluation of biological reagents.
- Rats were used:
 - in a project on neurogenesis and memory enhancement. Two out of 100 animals were euthanased and one died;
 - in a new model for the prevention of brain damage in premature infants;
 - in a project on rescuing memory loss after brain injury;
 - in development of cancer chemotherapy drugs.
- One rat was used in testing of a novel biosecurity-monitoring device.
- One rat fell ill during a trial but subsequently recovered.
- Wallabies were used in a trial that involved their capture and holding in pens – they were then fed a variety of foods to determine their taste preference. The rationale for the high impact grading was based primarily on an assessment of the effect on the wallabies’ mental state, i.e., keeping wild animals that exhibit a marked flight response in captivity. Further, as they were housed separately, there was a change to their social conditions that was considered to add to their stress.
- Stoats were used to assess their swimming capabilities so as to be able to better manage possible incursions of stoats onto offshore islands.

App 6.10 The Three Rs

There were no projects recorded as using animals in the development of alternatives in 2013.

Appendix 7

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

	2013		2012		2011		2010		2009	
	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	238	3	2021	64	606	13	811	7	2378	14
Birds	25 685	13	14 638	15	40 937	35	7492	33	49 023	78
Cats	676	3	695	<1	978	10	554	1	1132	12
Cattle	52 193	2	124 582	<1	106 601	<1	42 341	2	24 763	3
Cephalopods/ crustaceans	5485	24	4288	27	5118	86	3107	7	N/A	N/A
Deer	2316	6	3927	8	16 779	<1	9 094	1	5967	3
Dogs	1437	8	915	2	1048	12	814	7	690	7
Fish	24 354	53	28 044	32	15 531	64	15 611	15	23 736	46
Goats	581	24	1568	<1	1983	<1	1161	5	3231	6
Guinea pigs	2209	97	2090	96	2394	97	2316	96	4061	99
Horses/donkeys	272	2	758	<1	659	3	840	2	709	1
Marine mammals	927	<1	783	0	292	0	212	0	651	0
Mice	45 018	98	55 870	99	74 133	98	84 620	94	90 982	91
Pigs	236	83	264	58	809	54	513	69	995	24
Possoms	2626	84	5570	54	1629	84	1223	76	4797	63
Rabbits	1386	92	1519	95	1921	94	1846	95	2018	97
Rats	10 806	94	10 523	92	10 674	93	11 166	96	17 333	82
Reptiles	991	5	5349	<1	1664	1	1686	14	7422	1
Sheep	46 218	3	38 544	7	42 571	6	55 859	5	45 991	9
Misc. species	394	20	245	28	443	10	883	31	11 232	13
Total no. used	224 048		302 193		326 770		242 149		297 111	
Yearly %		36%		29%		37%		43%		55%

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	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
	2011	36 085	12 348	2 399	31 533	7 279	6 770	96 414
	2012	25 261	14 301	1 373	6 343	22 729	10 296	80 303
	2013	21 286	9297	2064	4393	10 301	5919	53 260
Commercial organisations	2009	62 351	41 188	757	77	-	317	104 690
	2010	49 032	38 142	520	4	2	278	87 978
	2011	37 994	102 589	12 426	107	1	175	153 292
	2012	24 319	123 849	755	32	23	117	149 095
	2013	28 087	63 468	225	10 120	341	32	102 273
Crown research institutes	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
	2011	3 407	31 157	4 522	294	5 026	2 131	46 537
	2012	2 586	24 168	3 648	7 951	1 838	5 022	45 213
	2013	3818	25 446	2001	6183	10 972	2677	51 097
Polytechnics	2009	215	2 779	1 403	74	16	70	4 557
	2010	172	4 030	636	130	109	188	5 265
	2011	121	4 612	589	116	3 158	70	8 666
	2012	152	1 715	549	116	3 187	168	5 658
	2013	174	729	614	73	2707	67	4364
Government departments	2009	19	-	256	42 572	-	419	43 266
	2010	51	-	8	91	-	140	290
	2011	167	-	122	8 824	60	459	9 632
	2012	-	-	43	133	-	19	195
	2013	-	-	-	4815	-	841	5656
Other	2009	9 686	-	-	108	332	25	10 151
	2010	20 062	1152	-	24	1 600	5	22 843
	2011	11 292	449	162	7	-	-	11 910
	2012	17 662	600	162	8	263	28	18 723
	2013	6025	52	24	62	16	3	6182
Schools	2009	88	298	32	30	24	1	473
	2010	81	82	45	59	106	2 881	3 254
	2011	56	-	53	56	7	147	319
	2012	22	61	29	55	4	2 606	2 777
	2013	29	-	9	39	17	1122	1216
TOTAL	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
	2011	89 122	151 155	20 273	40 937	15 531	9 752	326 770
	2012	70 002	164 694	6 559	14 638	28 044	18 256	302 193
	2013	59 419	98 992	4937	25 685	24 354	10 661	224 048

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 2013

Species	No impact	Little impact	Moderate impact	High impact	Very High impact	Total
Amphibians	63	175	–	–	–	238
Birds	12 491	6040	6091	1001	62	25 685
Cats	190	418	64	–	4	676
Cattle	22 588	28 738	851	16	–	52 193
Cephalopods/ crustacea	1 621	3 826	38	–	–	5 485
Deer	55	1859	402	–	–	2316
Dogs	285	1119	33	–	–	1437
Fish	7475	15 531	921	427	–	24 354
Goats	145	416	20	–	–	581
Guinea pigs	36	490	133	930	620	2209
Horses	134	135	3	–	–	272
Marine mammals	–	78	849	–	–	927
Mice	1561	14 942	18 465	120	9930	45 018
Pigs	1	227	8	–	–	236
Possoms	124	140	268	1526	568	2626
Rabbits	70	1266	50	–	–	1386
Rats	1535	4349	4425	440	57	10 806
Reptiles	26	941	24	–	–	991
Sheep	12 620	26 678	6920	–	–	46 218
Misc. species	49	9	265	46	25	394
TOTAL	61 069	107 377	39 830	4506	11 266	224 048
Percentage	27.3%	47.9%	17.8%	2.0%	5.0%	

