ANIMAL WELFARE VICTORIA

Statistics of animal use in research and teaching, Victoria

1 January 2024 – 31 December 2024

Report No. 42

Published by Animal Welfare Victoria
Department of Energy, Environment and Climate Action
8 Nicholson Street Melbourne, Victoria 3000
December 2025

Creative Commons

Unless indicated otherwise, this work is made available under the terms of the Creative Commons Attribution 3.0 Australia licence. To view a copy of this licence, visit **creativecommons.org/licenses/by/3.0/au**. It is a condition of this Creative Commons Attribution 3.0 Licence that you must give credit to the original author who is the State of Victoria.

ISBN 978-1-76176-628-2 **(pdf/online/MS word)**

Disclaimer

This publication may be of assistance to you, but the State of Victoria and its employees do not guarantee that the publication is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication. While every effort has been made to ensure the currency, accuracy or completeness of the content we endeavour to keep the content relevant and up to date and reserve the right to make changes as require. The Victorian Government, authors and presenters do not accept any liability to any person for the information (or the use of the information) which is provided or referred to in the report.

Accessibility

If you would like to receive this publication in an alternative format, please telephone DEECA Customer Service Centre 136 186 or email sp.licensing@agriculture.vic.gov.au

Table of Contents

List of tables

List of figures

Executive Summary

In Victoria, the use of animals for scientific research, teaching and testing is regulated by the *Prevention of Cruelty to Animals Act 1986* (the Act). Organisations or individuals that conduct scientific procedures with animals must hold an authorising licence issued by Animal Welfare Victoria.

The Act also requires that the breeding of specified animals (guinea pigs, rats, mice, rabbits, and non-human primates) to be used in scientific procedures is authorised by a Specified Animals Breeding Licence. Licences are subject to conditions prescribed by the Prevention of Cruelty to Animals Regulations 2019.

Each year, licence holders are required to submit data on their use of animals. This report details the number and species of animals reported by licence holders for the period 1 January to 31 December 2024.

In this period, 1,450,049 animals were used under licence for scientific, research, teaching and testing. This is a 30% decrease in animal use in 2024 compared to 2023, and 32% below the 10-year average of 2,135,246 animals. This decrease is primarily due to a reduction in the number of poultry sourced. The number of animals reported fluctuates each year due to variables such as changes to the focus of funded projects technological advances and economic factors.

A total of 28,539,028 embryonated eggs were reported in 2024. This is a 33.5% decrease in embryonated egg use in 2024 compared to 2023. These embryonated eggs are reported distinct from other animal use given the scale, and as the category was first reported in 2018, to prevent the skewing of historical data. The embryonated eggs were primarily used for vaccine production.

In 2024, around 81% of the non-specified animals reported as used for scientific purposes were used in their natural habitat, 3% were sourced from a commercial supplier, and 5% from own derivation. For specified animals, 66% were bred by the licence holders for their own supply, 15% were sourced from interstate institutions authorised to distribute specified animals and 18% were sourced from Victorian Specified Animal Breeding Licenced suppliers.

The most common impact on animals during research, teaching and testing was observational study involving minor interference (49%), minor conscious intervention (22%) and minor physiological challenge (13%). Less than 1% of animals experienced death as an end point.

Following their use in research, teaching and testing, 31% of animals were humanely euthanised.

Introduction

Animals are used for research and discovery in many fields of science. The *Prevention of Cruelty to Animals Act 1986* (the Act) regulates their use in Victoria.

The use of animals for scientific research, teaching and testing is termed 'scientific procedures' by the Act and must only be conducted under a licence. Laboratory mice, rats, guinea pigs, rabbits and non-human primates are classed in the legislation as 'specified animals' and their commercial production and supply requires a separate licence (specified animal breeding licence).

Animal Welfare Victoria licenses and monitors the scientific use of animals in Victoria. It safeguards the well-being of animals by assessing applications for licences to ensure they meet legislative requirements; monitoring compliance; providing advice on best practice procedures, housing and care; and providing training for Animal Ethics Committee (AEC) members. The Act requires animal use to be conducted under a licence and overseen by an AEC.

The AEC is responsible for determining whether animal use is ethically justified and for ensuring that there are no available alternatives, prior to that use commencing. They weigh the predicted scientific or educational value of the projects against the potential effects on the welfare of the animals.

Each year, licence holders are required to submit data on their use of animals.

This report details the number and species of animals reported by licence holders for 2024. Research and teaching organisations report the number of animals they used for scientific procedures as well as any animals held in breeding colonies for in-house supply. Commercial producers of specified animals bred for the purpose of supply for use in research report the number of breeders and the number of stock animals produced.

This report includes information on where animals were sourced, the purpose and benefit of their use, the impact it had on their well-being, and whether they were killed at the conclusion of the project or not.

Part 1: Guide to reading the report

1.1 The use of animals in research and teaching

1.1.1 Why are animals still used for experiments?

Over time, many animal experiments have been replaced by valid alternative methods. The process of validation is complex and rigorous, to ensure reproducibility and accuracy. Unfortunately, not all research methods can be replaced at this time, but it is an ongoing endeavour. More information about replacement, reduction and refinement can be found at www.nc3rs.org.uk.

1.1.2 What protections are in place?

Researchers and teachers must apply to an AEC for every project they conduct using animals. Before giving their approval, the AEC must be convinced that the animal use is justified. They weigh the predicted scientific or educational value of the projects against the potential effects on the welfare of the animals.

Applicants must demonstrate to the AEC that their project fulfils the principles of the 3 R's (Replacement, Reduction and Refinement):

1. Replacement: methods that either partially or completely replace the use of animals must be sought. The use of animals is prohibited if a valid, non-animal alternative exists.
2. Reduction: animal numbers must be statistically calculated to be the minimum necessary to achieve the results, and not so low as to render the exercise invalid.
3. Refinement: every effort must be made to minimise the impact on the animals involved, e.g. applying technology that allows an earlier conclusion to the study; ensuring best-practice anaesthesia and analgesia; by providing care and husbandry that meets the animal's psychological and physical needs.

AECs have a legal obligation to refuse to approve any project they consider unjustified or lacking scientific merit.

1.1.3 Who is on an Animal Ethics Committee?

There are 4 categories of membership on an AEC. At least one member of each category must be present to make a decision about a new project. The categories are:

Category A	Veterinarian.
Category B	Researcher or teacher with substantial and recent experience in the use of animals for scientific purposes relevant to the business of the AEC.
Category C	Person with demonstrable commitment to, and established experience in, furthering the welfare of animals, who is not employed by or otherwise associated with the institution, and who is not currently involved in the care and use of animals for scientific purposes.
Category D	Person not employed by or otherwise associated with the institution and who has never been involved in the use of animals in scientific or teaching activities, bringing a completely independent view to the AEC, and must not fit the requirements of any other category.

1.2 Reporting process

1.2.1 How is the data collected?

Organisations and individuals licensed to use animals for research and teaching are responsible for providing the data to Animal Welfare Victoria by 31 March every year, for the previous calendar year.

1.2.2 Why is this data collected?

The reporting process collates data in the same areas that are the major considerations for the AEC when assessing an application. The broad outcomes of project purposes must be achieved by the more specific project benefits outlined in the application. The potential benefits are compared with the likely welfare impacts in a cost benefit analysis. Each member of the AEC must decide, according to their own judgement, if the project is justified in an ethical sense. This information informs policy decisions and is used to direct risk-based inspections and educational programs.

1.2.3 What types of animals are counted?

The types of animals counted in the statistics for research, teaching or testing projects are:

- Mammals at and above the mid-point of gestation. This means that if research or teaching projects use a pregnant animal at or past the halfway point of gestation, she and all in utero offspring must be included in the statistics.
- Birds and reptiles at and above the mid-point of incubation or gestation. This means eggs that are used for research or teaching must be reported in the statistics, if they are at or past the halfway point of incubation. For live bearing reptiles, the same rule applies as for mammals.
- Fish and amphibians capable of independent feeding.
- Adult decapod crustaceans and cephalopods.

Reporting of breeding groups kept by scientific procedures and specified animal breeding licence holders is slightly different. The number of animals used as breeders and the number of stock animals produced must be reported.

1.2.4 Where are animals sourced from?

Specified animals must only be sourced from:

- Victorian suppliers holding a specified animals breeding licence
- an in-house breeding colony kept by a scientific procedures licence holder, or
- an interstate or overseas supplier who meets all relevant requirements of their local jurisdiction for the breeding of these animals.

Other animals may be sourced from:

- an in-house breeding colony kept by a scientific procedures licence holder
- a commercial supplier
- private donation – this may include animals that continue to stay in the custody of the owners for the duration of the project (except farm animals)
- farms, where the animals do not leave the property
- their natural habitat – these animals may be sampled in the field and immediately released, or brought into captivity
- a captive colony or zoo
- a council pound – these animals must be treated in accordance with the Victorian code of practice for the use of animals from municipal pounds in scientific procedures, or
- another source, not specified above.

1.2.5 What is meant by the project purpose?

Animals must only be used when there is no other alternative and only for a limited number of reasons. These are:

- to obtain and establish significant information relevant to the understanding of humans and/or animals, or
- to maintain and improve human and/or animal health and welfare, or
- to improve animal management or production, or

- to obtain and establish significant information relevant to the understanding, maintenance or improvement of the natural environment, or
- to achieve educational outcomes in science, as specified in the relevant curriculum or competency requirements.

1.2.6 What is meant by the project benefit?

These categories refine and add definition to the broader project outcomes reported above. The reporting categories include:

- fundamental biology/physiology
- diseases - human
- diseases - animal
- diseases - zoonotic
- environmental monitoring/ecology
- domestic animal management/production
- wildlife management/conservation
- vertebrate pest management
- production of biological products
- development of techniques
- education
- training (student use of animals)
- regulatory product testing.

1.2.7 What is meant by the impact of activities?

These reporting categories represent the highest level of impact experienced by the animal during its involvement in research, teaching or testing. An AEC must consider the well-being of animals used for scientific purposes in terms of the cumulative effects of an animal's lifetime experience. The categories are defined in Appendix 1.

1.2.8 What is meant by the number of deaths?

The fate of the animals at the conclusion of a project depends on the aims of the project. Some projects require analysis of the animal's tissues to conclude the experiment, and they are humanely killed to obtain these results. Occasionally, an unexpected adverse event, for example an unexpected reaction, surgical complication or unrelated illness will require an animal to be euthanised. Animals must be monitored with enough frequency to promptly detect any pain or distress, whether anticipated as a result of the study or not.

Animals may be reported as used but not recorded as dead because they have been, for example:

- captured then released back to the wild
- recruited to a study while kept in the care of their owner, for example on a farm or through a vet clinic
- rehomed at the conclusion of the project.

1.3 Understanding the 2024 statistics

1.3.1 How does the number of animals used compare to previous years?

There was a 30% decrease in animal use in 2024 compared to 2023. This decrease is primarily due to a single project concluding in 2023 that used approximately 467,000 poultry sourced from a commercial supplier. These animals were used for regulatory product testing, for the purposes of improving animal management/ production.

The number of animals reported fluctuates each year due to variables such as changes to the focus of funded projects, technological advances, and economic factors.

1.3.2 Why are 28,539,028 embryonated eggs reported in 2024?

A total of 28,539,028 embryonated eggs were reported in 2024. This is a 33.5% decrease in embryonated egg use in 2024 compared to 2023. These embryonated eggs are reported distinct from other animal use given the scale, and as the category was first reported in 2018, to prevent the skewing of historical data. The embryonated eggs were primarily used for vaccine production.

To generate vaccine, early-stage embryonated chicken eggs are seeded with the current seasonal strain of the flu virus. Viral replication occurs in the embryonated eggs. The eggs are then harvested in the days following the midpoint of their incubation period.

Part 2: Number of animals reported as used in 2024

In 2024, a total of 1,450,049 animals were reported to be used for research, teaching and testing (scientific procedures) in Victoria. The table below shows the number of animals used by type. There was a 30% decrease in animal use in 2024 compared to the reported 2,063,816 animals used in 2023.

This total number of animals reported excludes 28,539,028 embryonated eggs. All of these eggs were sourced from a commercial supplier. These eggs were primarily used for the production of influenza vaccines.

2.1 Reported by animal type

Table 2.1 Number of animals reported as used by animal type

Animal type	Number of animals
*Guinea pig (lab)	4,212
*Macaques	53
*Marmosets	66
*Mouse (lab)	419,824
*Rabbit (lab)	1,041
*Rat (lab)	9,376
Amphibians	10,433
Bird exotic captive	28
Bird exotic wild	255
Bird native captive	595
Bird native wild	311,074
Bird other	40
Cats (non-wild)	275
Cats (wild)	172
Cattle (domestic)	26,394
Cephalopods	162
Crustaceans	164,104
Dasyurids	8,119
Deer (domestic)	16
Dogs (non-wild)	3,333
Dogs, foxes (wild)	1,373
Exotic feral mammal other	195
Exotic Zoo mammal	64
Ferret (lab)	292
Fish	297,229
Goats (domestic)	1,097
Hares (wild)	25
Horses (domestic)	434
Horses (wild)	2
Koalas	704
Laboratory mammal (non-specified)	93

Animal type	Number of animals
Lizards	2,678
Macropods	19,178
Mice (wild)	12,675
Monotremes	434
Native mammal other	8,765
Native Rats, Mice	7,131
Other domestic mammals	792
Pigs (domestic)	6,438
Pigs (wild)	32
Possums, Gliders	6,644
Poultry	10,488
Rabbits (wild)	925
Rats (wild)	63,944
Reptile other	2,520
Seals, Sealions	1,691
Sheep (domestic)	38,859
Snakes	1,466
Sugar Gliders	4
Tortoises/ turtle	1,898
Whales, Dolphins	363
Wombats	2,044
Total	**1,450,049**

**Specified animals*

Table 2.2 Number of animals reported as used by animal type and project purpose

Animal Type	Educational objectives	Environmental objectives	Improve animal management/ production	Maintenance/ improvement human/animal health/welfare	Understand human/animal biology	Total
*Guinea pig (lab)	212		24	3,936	40	**4,212**
*Macaques				16	37	**53**
*Marmosets					66	**66**
*Mouse (lab)	20,974		43,650	116,299	238,901	**419,824**
*Rabbit (lab)	44		24	907	66	**1,041**
*Rat (lab)	569		121	3,791	4,895	**9,376**
Amphibians	437	8,352	920	40	684	**10,433**
Bird exotic captive	28					**28**
Bird exotic wild		255				**255**
Bird native captive	4	42	13		536	**595**
Bird native wild	1,227	232,401	2	2,347	75,097	**311,074**
Bird other					40	**40**
Cats (non-wild)	210	18	5	41	1	**275**
Cats (wild)		172				**172**
Cattle (domestic)	1,292	3	18,583	6,516		**26,394**
Cephalopods		34	128			**162**
Crustaceans	4,620	2,128	6,862		150,494	**164,104**
Dasyurids	283	6,654		10	1,172	**8,119**
Deer (domestic)		16				**16**
Dogs (non-wild)	2,069	1,043	77	139	5	**3,333**
Dogs, foxes (wild)	3	1,370				**1,373**

Animal Type	Educational objectives	Environmental objectives	Improve animal management/ production	Maintenance/ improvement human/animal health/welfare	Understand human/animal biology	Total
Exotic feral mammal other		142		53		**195**
Exotic Zoo mammal				64		**64**
Ferret (lab)				167	125	**292**
Fish	738	234,413	13,135	4,354	44,589	**297,229**
Goats (domestic)	61		497	539		**1,097**
Hares (wild)		25				**25**
Horses (domestic)	152		7	225	50	**434**
Horses (wild)		2				**2**
Koalas	1	691		12		**704**
Laboratory mammal (non-specified)					93	**93**
Lizards	199	2,326		109	44	**2,678**
Macropods	33	16,955		1,472	718	**19,178**
Mice (wild)	46	12,499	130			**12,675**
Monotremes	2	384		2	46	**434**
Native mammal other	8	8,719	12		26	**8,765**
Native Rats, Mice	353	6,748			30	**7,131**
Other domestic mammals	51			20	721	**792**
Pigs (domestic)	36		2,917	3,437	48	**6,438**
Pigs (wild)		32				**32**
Possums, Gliders	86	6,449	3		106	**6,644**
Poultry	589		4,759	4,723	417	**10,488**
Rabbits (wild)	8	917				**925**

Animal Type	Educational objectives	Environmental objectives	Improve animal management/ production	Maintenance/ improvement human/animal health/welfare	Understand human/animal biology	Total
Rats (wild)	52	63,892				**63,944**
Reptile other	42	2,478				**2,520**
Seals, Sealions		101			1,590	**1,691**
Sheep (domestic)	16,554		17,365	4,926	14	**38,859**
Snakes	114	1,350		2		**1,466**
Sugar Gliders	4					**4**
Tortoises/ turtle	24	1,839		3	32	**1,898**
Whales, Dolphins		363				**363**
Wombats	1	2,025		18		**2,044**
Total	**51,126**	**614,838**	**109,234**	**154,168**	**520,683**	**1,450,049**

**Specified animals.*

Table 2.3 Number of non-specified animals used by animal type by source

Animal Type	Animals in their natural habitat	Australian captive colony/zoo	Commercial supplier	Other source	Own derivation	Private companion animals	Private donation	Privately owned animals on a farm	Removed from Aust. natural habitat	Total
Amphibians	7,585	1,632	423		72				721	**10,433**
Bird exotic captive							28			**28**
Bird exotic wild	255									**255**
Bird native captive		55	4		300				236	**595**
Bird native wild	310,850	224								**311,074**
Bird other			40							**40**
Cats (non-wild)			18		18	239				**275**
Cats (wild)	172									**172**
Cattle (domestic)	1		11,924	37	1,644		40	12,748		**26,394**
Cephalopods	162									**162**
Crustaceans	159,994								4,110	**164,104**
Dasyurids	6,948				1,171					**8,119**
Deer (domestic)	16									**16**
Dogs (non-wild)	1,035			1		2,230	6	61		**3,333**
Dogs, foxes (wild)	1,373									**1,373**
Exotic feral mammal other	137	5			53					**195**
Exotic Zoo mammal		64								**64**
Ferret (lab)			213	39				40		**292**
Fish	199,687	384	3,996	4,162	42,658	27	14		46,301	**297,229**
Goats (domestic)			8	30			10	1,049		**1,097**

Animal Type	Animals in their natural habitat	Australian captive colony/zoo	Commercial supplier	Other source	Own derivation	Private companion animals	Private donation	Privately owned animals on a farm	Removed from Aust. natural habitat	Total
Hares (wild)	25									**25**
Horses (domestic)	2		142	26	7	111	26	120		**434**
Horses (wild)	2									**2**
Koalas	692								12	**704**
Laboratory mammal (non-specified)					93					**93**
Lizards	2,377		148			24	58	18	53	**2,678**
Macropods	18,949	29			197				3	**19,178**
Mice (wild)	12,675									**12,675**
Monotremes	415	14							5	**434**
Native mammal other	8,749	16								**8,765**
Native Rats, Mice	7,023	63	38	5					2	**7,131**
Other domestic mammals	721		20	43		8				**792**
Pigs (domestic)			4,170		1,677			591		**6,438**
Pigs (wild)	32									**32**
Possums, Gliders	6,616	24		4						**6,644**
Poultry			7,992		2,358	113	19	6		**10,488**
Rabbits (wild)	917						8			**925**
Rats (wild)	63,944									**63,944**
Reptile other	2,474		36						10	**2,520**
Seals, Sealions	1,691									**1,691**
Sheep (domestic)			1,186	42	1,301	2	98	36,230		**38,859**

Animal Type	Animals in their natural habitat	Australian captive colony/zoo	Commercial supplier	Other source	Own derivation	Private companion animals	Private donation	Privately owned animals on a farm	Removed from Aust. natural habitat	Total
Snakes	1,350	2	98			8	8			**1,466**
Sugar Gliders				4						**4**
Tortoises/ turtle	1,792		20				4		82	**1,898**
Whales, Dolphins	363									**363**
Wombats	2,026	8		4					6	**2,044**
Total	**821,050**	**2,520**	**30,476**	**4,397**	**51,549**	**2,762**	**319**	**50,863**	**51,541**	**1,015,477**

Table 2.4 Number of specified animals used by animal type by source

Animal Type	*Other	*Own Derivation	*Imported from overseas	*Interstate institution authorised to distribute specified animals	*Victoria – Specified Animals Breeding Licenced Supplier	**Total**
*Guinea pig (lab)	68	4,075		66	3	**4,212**
*Macaques					53	**53**
*Marmosets					66	**66**
*Mouse (lab)	6839	278,811	1,646	60,994	71,534	**419,824**
*Rabbit (lab)	20	982		33	6	**1,041**
*Rat (lab)	23	2,895	6	2,013	4,439	**9,376**
Total	**6950**	**286,763**	**1,652**	**63,106**	**76,101**	**434,572**

**Specified animals.*

2.2 Reported by project benefit

Table 2.5 Number of animals reported as used by animal type, by project benefits

Animal Type	Development of techniques	Domestic animal management/ production	Education (demonstration)	Environmental monitoring/ecology	Fundamental biology/physiology	Production of biological products	Regulatory product testing	Training (student use of animals)	Vertebrate pest management	Wildlife management/ conservation	Diseases-animal	Diseases-human	Diseases-zoonotic	Total
*Guinea pig (lab)	8		42		29	11	3,428	170			24	500		**4,212**
*Macaques						33						20		**53**
*Marmosets					57	1						8		**66**
*Mouse (lab)	122		1,922	24	217,719	1,376	11,475	19,029			6,945	157,758	3,454	**419,824**
*Rabbit (lab)						169	727	44			24	77		**1,041**
*Rat (lab)	30		171	10	3,188	19		398			90	5,470		**9,376**
Amphibians	20		318	4,221	74			119	221	4,937	523			**10,433**
Bird exotic captive								28						**28**
Bird exotic wild				243						12				**255**
Bird native captive			4		539					52				**595**
Bird native wild			1,225	280,749	57			2		28,282			759	**311,074**
Bird other					40									**40**
Cats (non-wild)			7		1		5	203	18		24	17		**275**
Cats (wild)				94						78				**172**
Cattle (domestic)	265	20,474	45	1	900	3		1,247	2		3,432	25		**26,394**
Cephalopods				34						128				**162**
Crustaceans			4,616	2,612				4		156,872				**164,104**
Dasyurids	1,118			5,786	53			283		869	10			**8,119**

Animal Type	Development of techniques	Domestic animal management/ production	Education (demonstration)	Environmental monitoring/ecology	Fundamental biology/physiology	Production of biological products	Regulatory product testing	Training (student use of animals)	Vertebrate pest management	Wildlife management/ conservation	Diseases-animal	Diseases-human	Diseases-zoonotic	Total
Deer (domestic)				16										**16**
Dogs (non-wild)		74	26	2	95	2	3	2,043		1,041	45	1	1	**3,333**
Dogs, foxes (wild)				1,014				3		356				**1,373**
Exotic feral mammal other				33						109		53		**195**
Exotic Zoo mammal										7	57			**64**
Ferret (lab)												292		**292**
Fish	30	3,036	605	232,599	30,844			133	66	13,342	248	16,326		**297,229**
Goats (domestic)		497	6					55					539	**1,097**
Hares (wild)				12						13				**25**
Horses (domestic)		15	8		58	18	27	144			80	84		**434**
Horses (wild)				2										**2**
Koalas				145				1		546	12			**704**
Laboratory mammal (non-specified)					93									**93**
Lizards			96	918	26			103		1,431	81		23	**2,678**
Macropods	3			15,153	648			33		3,341				**19,178**
Mice (wild)				8,804				46	130	3,695				**12,675**
Monotremes				267	4			2		161				**434**
Native mammal other			1	6,586				7		2,171				**8,765**
Native Rats, Mice			8	4,465				345		2,313				**7,131**
Other domestic mammals					721	20		51						**792**
Pigs (domestic)	39	6,103	16		20	5	28	20				91	116	**6,438**

Animal Type	Development of techniques	Domestic animal management/ production	Education (demonstration)	Environmental monitoring/ecology	Fundamental biology/physiology	Production of biological products	Regulatory product testing	Training (student use of animals)	Vertebrate pest management	Wildlife management/ conservation	Diseases-animal	Diseases-human	Diseases-zoonotic	Total
Pigs (wild)				29						3				**32**
Possums, Gliders			28	3,185				58		3,373				**6,644**
Poultry	84	1,034	161		441	2,958	3,754	428			1,151	477		**10,488**
Rabbits (wild)			8	492					80	345				**925**
Rats (wild)				63,773				52		119				**63,944**
Reptile other			36	111				6		2,367				**2,520**
Seals, Sealions				7	49					1,635				**1,691**
Sheep (domestic)	76	19,559	71		233	4	92	16,483			827	1,514		**38,859**
Snakes			88	1,305				26		47				**1,466**
Sugar Gliders			4											**4**
Tortoises/ turtle			18	1,838	32			6		4				**1,898**
Whales, Dolphins				18						345				**363**
Wombats	6			1,930				1		95	12			**2,044**
Total	**1,801**	**50,792**	**9,530**	**636,478**	**255,921**	**4,619**	**19,539**	**41,573**	**517**	**228,089**	**13,585**	**182,713**	**4,892**	**1,450,049**

**Specified animals.*

Table 2.6 Number of animals used, by project impact by project benefit

Project Impact	Development of techniques	Domestic animal management/ production	Education (demonstration)	Environmental monitoring/ecology	Fundamental biology/physiology	Production of biological products	Regulatory product testing	Training (student use of animals)	Vertebrate pest management	Wildlife management/ conservation	Diseases-animal	Diseases-human	Diseases-zoonotic	Total
Observational study involving minor interference	402	22,185	1,768	409,403	30,328	5	6	19,531	82	206,626	1,392	14,862	1	**706,591**
Animal unconscious without recovery	985	18	647	1,776	49,606	29		4,277		14	535	24,914		**82,801**
Minor conscious intervention	304	24,049	7,015	169,924	37,526	2,939	1,078	16,626	30	16,979	5,722	38,873	1,680	**322,745**
Minor operative procedures with recovery	4	3,100		5,442	8,650	747		889		2,370	143	20,378		**41,723**
Minor physiological challenge	42	1,420	100	49,829	98,587	161	4,942	168	405	2,022	4,301	25,109	1,707	**188,793**
Surgery with recovery	64			104	6,910		6	13		3		19,897		**26,997**
Moderate to major physiological challenge		20			24,314	602	10,117	69		75	1,492	38,680	1,504	**76,873**
Death as an end point						136	3,390							**3,526**
Total	**1,801**	**50,792**	**9,530**	**636,478**	**255,921**	**4,619**	**19,539**	**41,573**	**517**	**228,089**	**13,585**	**182,819**	**4,892**	**1,450,049**

Table 2.7 Number of animals reported as used by project purpose

Project purpose	Number of animals
Educational objectives	51,126
Environmental objectives	614,838
Improve animal management/production	109,234
Maintenance/improvement human/animal health/welfare	154,168
Understand human/animal biology	520,683
Total	**1,450,049**

2.3 Number of animals used and animal deaths

Investigators must plan for animals at the conclusion of a project. If appropriate, animals are returned to normal husbandry conditions or their natural habitat. When results rely on tissue analysis, this usually requires the humane killing of the animals. Opportunities to rehome animals that are not needed for tissue analysis are considered wherever possible. Under certain conditions, with special justification, an AEC may approve an animal to be used in a subsequent project.

Table 2.8 Number of animals used and deaths by type

Animal type	Number of animals	Number of deaths
*Guinea pig (lab)	4,212	3,954
*Macaques	53	11
*Marmosets	66	35
*Mouse (lab)	419,824	375,639
*Rabbit (lab)	1,041	844
*Rat (lab)	9,376	8,368
Amphibians	10,433	592
Bird exotic captive	28	28
Bird exotic wild	255	0
Bird native captive	595	117
Bird native wild	311,074	52
Bird other	40	40
Cats (non-wild)	275	15
Cats (wild)	172	0
Cattle (domestic)	26,394	35
Cephalopods	162	58
Crustaceans	164,104	690
Dasyurids	8,119	1,094
Deer (domestic)	16	0
Dogs (non-wild)	3,333	0
Dogs, foxes (wild)	1,373	0
Exotic feral mammal other	195	53
Exotic Zoo mammal	64	2
Ferret (lab)	292	191
Fish	297,229	49,658
Goats (domestic)	1,097	50
Hares (wild)	25	0
Horses (domestic)	434	4
Horses (wild)	2	0
Koalas	704	34
Laboratory mammal (non-specified)	93	93
Lizards	2,678	40
Macropods	19,178	185
Mice (wild)	12,675	3
Monotremes	434	1

Animal type	Number of animals	Number of deaths
Native mammal other	8,765	1
Native Rats, Mice	7,131	5
Other domestic mammals	792	0
Pigs (domestic)	6,438	798
Pigs (wild)	32	1
Possums, Gliders	6,644	1
Poultry	10,488	9,401
Rabbits (wild)	925	0
Rats (wild)	63,944	0
Reptile other	2,520	0
Seals, Sealions	1,691	0
Sheep (domestic)	38,859	1,645
Snakes	1,466	4
Sugar Gliders	4	1
Tortoises/ turtle	1,898	0
Whales, Dolphins	363	0
Wombats	2,044	1
Total	**1,450,049**	**453,744**

**Specified animals.*

Part 3: Animal use statistics from 2015 to 2024

3.1 Number of animals used in research, teaching and testing from 2015 to 2024

The number of animals used in research, teaching and testing in 2024 was 1,450,049.

Figure 3.1 Number of animals used, 2015–2024

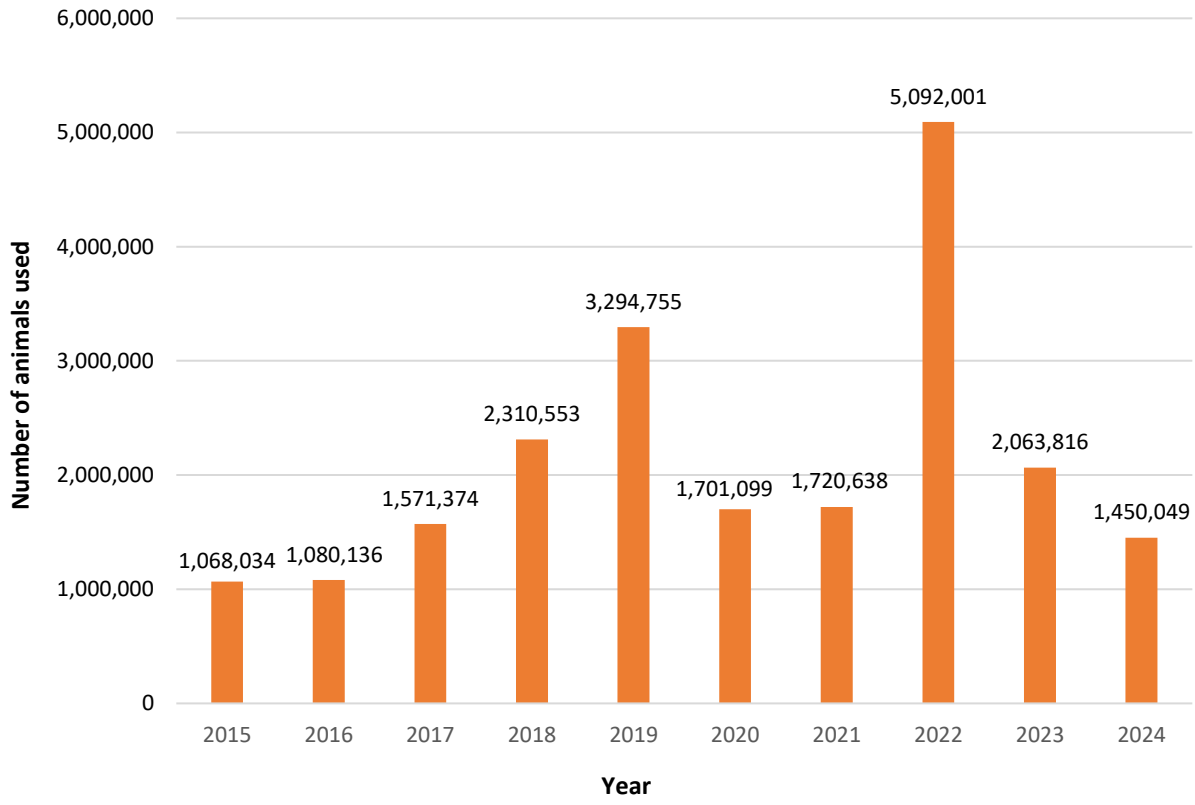


Figure 3.2 Percentage of animals used by project purpose, 2020–2024

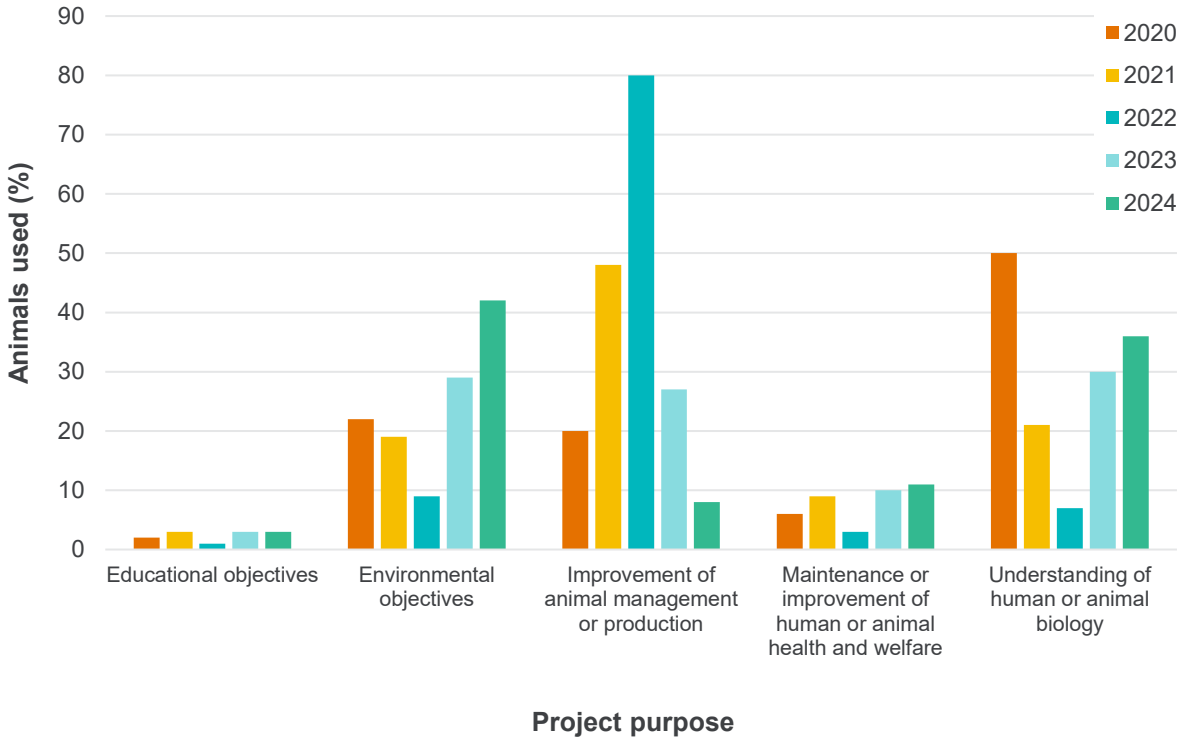
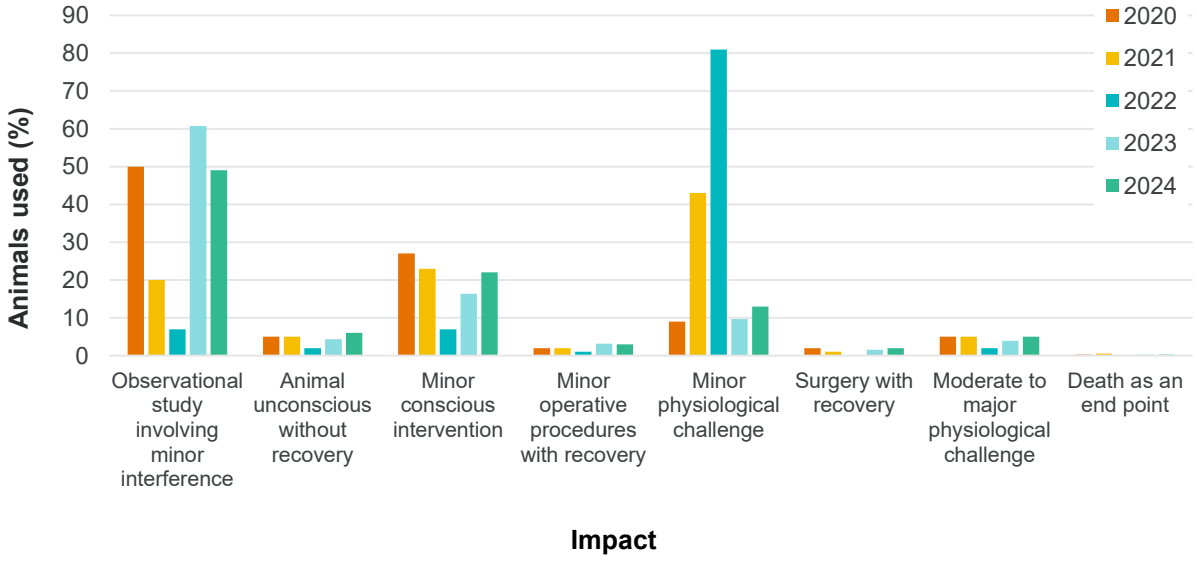


Figure 3.3 Percentage of animals used by impact type, 2020–2024



Note: Less than 0.3% of animals experienced death as an endpoint each year over the last 5 years.

3.2 Number of specified animals used from 2015 to 2024

Figure 3.4 Number of specified mice used, 2015–2024

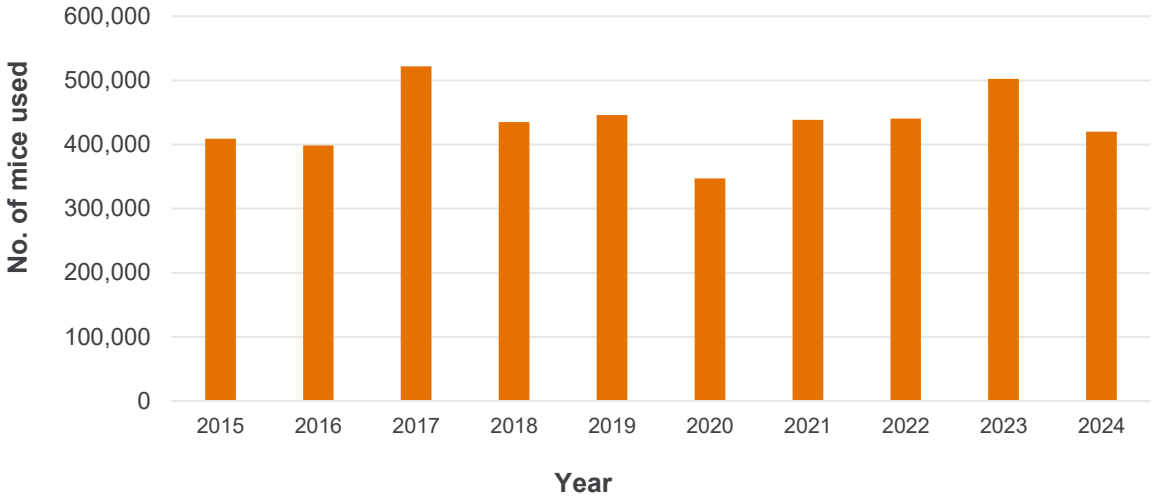


Figure 3.5 Number of specified animals used, excluding mice and non-human primates 2015–2024

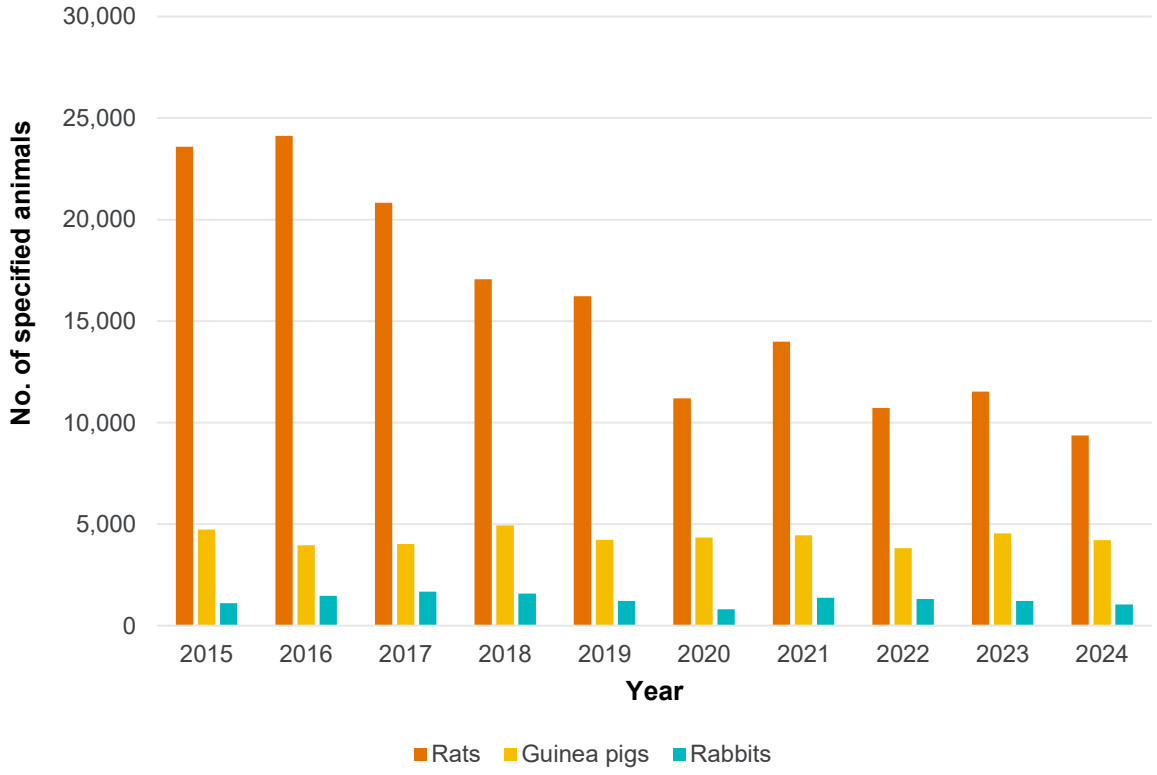


Figure 3.6 Number of non-human primates used, 2015–2024

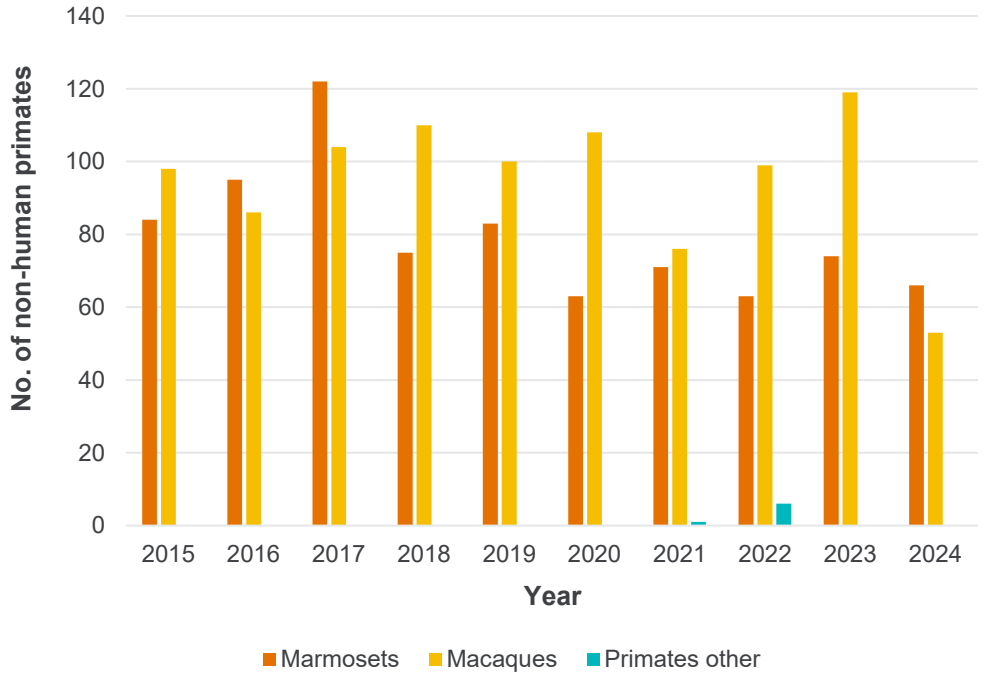
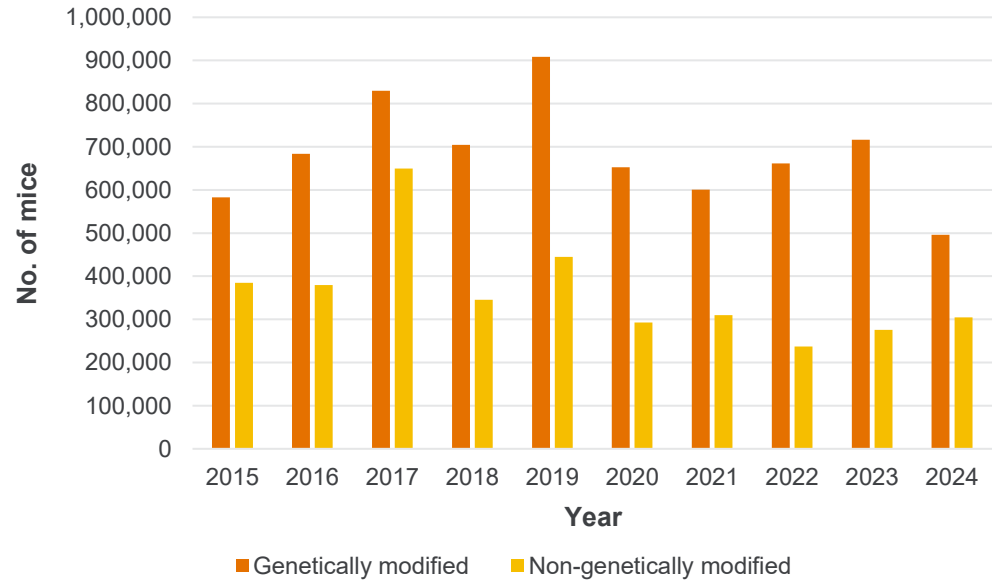


Figure 3.7 Number of specified mice in breeding colonies, 2015–2024



3.3 Number of animals used in breeding colonies from 2015 to 2024

Table 3.1 Number of non-genetically modified specified animals in breeding colonies by animal type, 2015–2024

Animal type	Year									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Guinea pigs	294	96	48	3,202	1,543	1,207	2,183	1,344	2,327	5,840
Macaques	282	274	476	258	271	175	158	175	195	190
Marmosets	440	463	744	309	228	231	210	228	188	230
Mice	384,762	379,198	649,519	345,107	444,733	292,840	309,679	237,073	275,978	304,303
Rabbits	179	159	86	793	46	531	540	1,370	1,328	1,115
Rats	23,744	27,754	40,719	20,606	28,319	24,089	30,040	23,561	21,119	13,145
Total	**409,701**	**407,944**	**691,592**	**370,275**	**475,140**	**319,073**	**342,810**	**263,751**	**301,135**	**324,823**

Table 3.2 Number of genetically modified specified animals in breeding colonies by animal type, 2015–2024

Animal type	Year									
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Mice	582,925	683,769	829,940	704,297	908,083	652,671	600,716	661,064	716,196	495,688
Rats	2,714	2,286	2,907	2,160	2,073	1,408	1,570	1,383	2,699	1,592
Total	**585,639**	**686,055**	**832,847**	**706,457**	**910,156**	**654,079**	**602,286**	**662,447**	**718,895**	**497,280**

In 2020 a new reporting category was introduced, to capture non-specified animals in breeding colonies. This was designed to improve data accuracy for these animals. Previously, these animals may have been reported as domestic animal management/production.

Table 3.3 Number of non-genetically modified non-specified animals in breeding colonies by animal type, 2020–2024

Animal type	2020	2021	2022	2023	2024
Amphibians	274	287	1,846	123	2,816
Bird native captive	0	31	23	0	24
Bird other	0	0	23	0	0
Cats (non-wild)	21	58	25	29	23
Cattle (domestic)	338	0	0	0	0
Dasyurids	8	0	0	0	921
Exotic feral mammal other	393	99	84	0	189
Fish	87,636	38,340	12,536	158,257	58,034
Horses (domestic)	19	52	29	72	55
Lizards	0	0	16	0	28
Macropods	53	100	42	35	0
Native Rats, Mice	0	0	33	0	0
Poultry	52	337	434	383	331
Reptile other	0	12	6	0	108
Sheep (domestic)	1,136	230	258	134	1,171
Laboratory mammal (non-specified)	344	707	0	0	69
Total	**90,274**	**40,253**	**15,355**	**159,033**	**63,769**

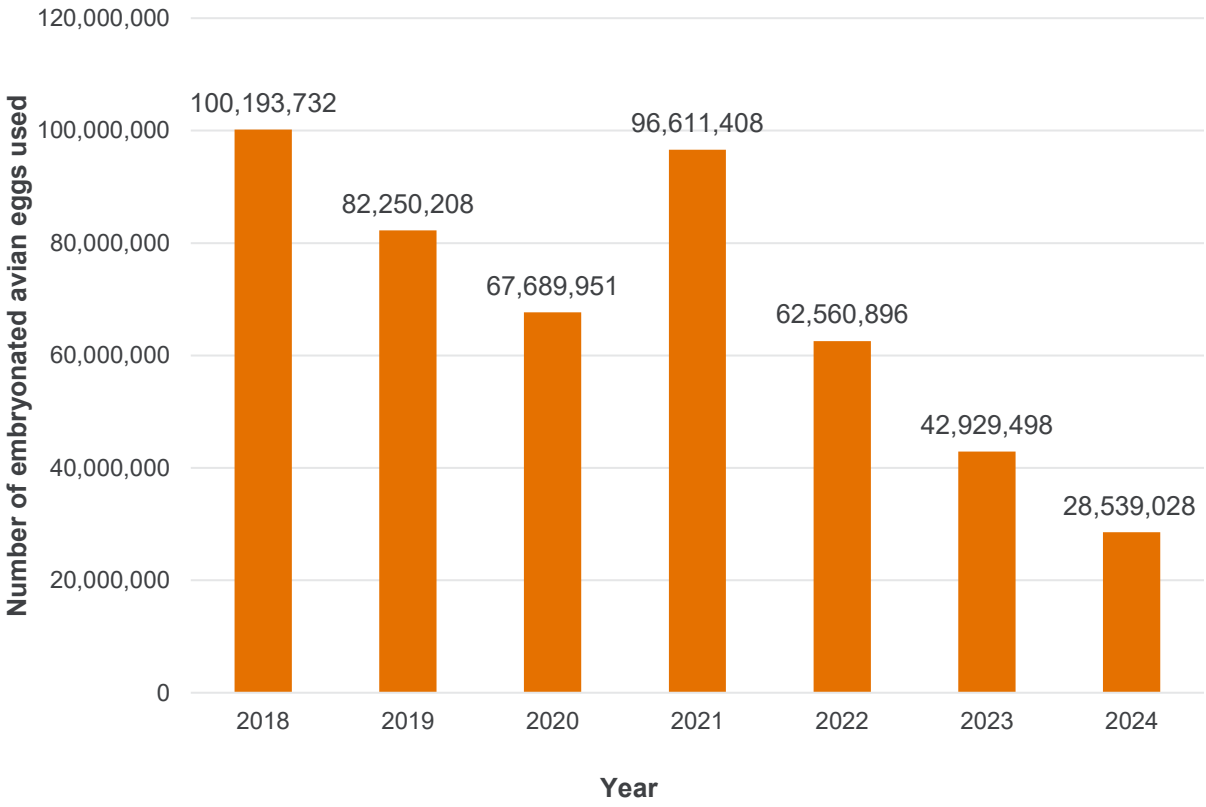
Table 3.4 Number of genetically modified non-specified animals in breeding colonies by animal type, 2020–2024

Animal type	2020	2021	2022	2023	2024
Amphibians	175	67	0	0	0
Bird other	34	0	0	0	0
Fish	59,248	196,335	174,710	68,362	201,778
Pigs (domestic)	55	0	0	0	0
Poultry	270	441	65	0	0
Laboratory mammal (non-specified)	0	0	558	0	0
Total	**59,782**	**196,843**	**175,333**	**68,362**	**201,778**

3.4 Number of embryonated avian eggs used in research, teaching and testing from 2018 to 2024

The number of embryonated avian eggs used in research, teaching and testing in 2024 was 28,539,028.

Figure 3.8 Number of embryonated avian eggs used, 2018–2024



Appendices

Appendix 1

Table 4.1 Reporting categories

Category	Description
Observation involving minor interference	Studies in which the normal activities of animals are minimally impacted on. For example, laboratory animals held in cages for acclimatisation; a feeding trial, such as Digestible Energy determination of feed in a balanced diet; behavioural or growth study with minor environmental manipulation; or teaching of normal, non-invasive husbandry such as handling, grooming, etc.
Unconscious without recovery	Studies in which animals are humanely rendered unconscious under controlled circumstances (i.e. not in a field situation) with as little pain or distress as possible. Capture methods are not required. Any pain is minor and brief and does not require analgesia. Procedures are carried out on the unconscious animal that is then killed without regaining consciousness. Examples include animals (including fish) in laboratory killed painlessly for dissection, biochemical analysis, etc.; or teaching of surgical techniques using live, anaesthetised patients that are not allowed to recover following the procedure.
Minor conscious intervention	Studies in which animals are subjected to minor procedures that would normally not require anaesthesia. Any pain is minor, although some distress may occur as a result of trapping or handling. For example, capture and release (with or without tagging) of animals (including fish) in the wild; trapping and humane euthanasia for collection of specimens; ear notching for identification of new line GM animals; injections, blood sampling in conscious animal; minor dietary or environmental deprivation or manipulation, such as feeding nutrient-deficient diets for short periods; or stomach tubing, branding, disbudding, shearing, etc.
Minor operative procedure with recovery	Studies in which animals are anaesthetised for a minor procedure such as cannulation or skin biopsy. Animals are allowed to recover. Depending on the procedure, pain may be minor or moderate and post-operative analgesia may be appropriate. For example, biopsies or blood sampling under anaesthesia or sedation; cannulations under anaesthesia or sedation; sedation/anaesthesia for relocation, examination or injections/blood sampling; field capture using chemical restraint methods.
Minor physiological challenge	Studies in which there is interference with the animals' physiological or psychological processes. The challenge may cause mild or short-lived pain/distress, or any pain/distress is quickly and effectively alleviated. For example, electrofishing; minor infection, minor or

Category	Description
	moderate phenotypic modification, early oncogenesis; arthritis studies with pain alleviation; prolonged deficient diets, induction of metabolic disease; polyclonal antibody production; or antiserum production.
Surgery with recovery	Studies in which animals are anaesthetised for a major procedure such as abdominal or orthopaedic surgery following which the animal is allowed to recover. Post-operative pain should be managed with analgesia. For example, orthopaedic surgery; abdominal or thoracic surgery; transplant surgery; or surgery under anaesthesia for implantation of telemetry tags.
Moderate to major physiological challenge	Studies in which there is interference with the animals' physiological or psychological processes. The procedure/s may cause moderate or longer lasting pain/distress. Pain or distress may not be able to be entirely alleviated, either due to the nature of the process (e.g., neurological impairment) or because of the experimental question (e.g., pain studies). Other examples include: severe infection, significant disability due to genetic modification, induction of cancer without pain alleviation; arthritis studies without pain alleviation, uncontrolled metabolic disease; isolation or environmental deprivation for extended periods.
Death as an endpoint	Studies where the death of the animal is essential for the scientific result, such as for efficacy of some antivenoms, development of pest control agents and studies of acutely fatal conditions. In these studies, death is a deliberate measure in the procedure and there can be no intervention to kill the animal humanely before death occurs in the course of the procedure. 'Death as an endpoint' procedures must be approved by the Minister for Agriculture. They do not include studies where animals are humanely killed at the conclusion of the experiment.