Statistics of animal use in research and teaching, Victoria

1 January 2013 to 31 December 2013
Report number 31

State Government Victoria

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Biosecurity branch, Department of Economic Development, Jobs, Transport and Resources Victoria

Returns on the use of animals in licensed scientific institutions must be made to the Secretary of the Department of Economic Development, Jobs, Transport and Resources each year. Details of the return are based on Regulation 100 of the Prevention of Cruelty to Animals Regulations 2008. The Biosecurity branch oversees the administration of Part 3 of the *Prevention of Cruelty to Animal Act 1986* and Part 4 of the 2008 Regulations, which refer to scientific procedures. Its *Statistics of animal use in research and teaching Victoria* (report number 31) compiles the returns for 1 January to 31 December 2013. It reports only on animals used in Victoria.

Tables 1–12 present data on animals used in scientific procedures. Table 13 presents data on 'specified animals' that were produced for scientific procedures but not used for such procedures. A specified animal is a guinea pig, or a rat, mouse or rabbit that is not bred in its native habitat, or a non-human primate. Their production must be licensed under Part 3 of the Act.

Further information on the data collected for this report may be found in the 2013 return guidelines, available at www.economicdevelopment.vic.gov.au .

Table 1: Number of animals used, by type of animal and project purpose, 2013

Animal Type	Project purpose					Total
	Animal management/ production	Educational	Environmental	Human/animal biology	Human/animal health/welfare	
Amphibians	120	764	5211	1409	2028	**9532**
Birds (exotic wild)			146	64		**210**
Birds (native captive)	171	41	38	474	85	**809**
Birds (native wild)	1762	1319	8451	6885	238	**18 655**
Birds, other	665	580	101	55		**1401**
Cats (non-wild)		165	4	51	202	**422**
Cats (wild)		6	60		6	**72**
Cattle (domestic)	3920	3295	441	160	11 664	**19 480**
Cephalopods	439	3				**442**
Crustaceans	14 774	2150	5895	32		**22 851**
Dasyurids	36	184	624	6		**850**
Dogs (non-wild)	153	645		183	897	**1878**
Dogs, foxes wild		4	162		35	**201**
Exotic feral mammals, other			4		8	**12**
Exotic zoo mammals					23	**23**
Ferrets (lab)				13	2113	**2126**
Fish	160 654	786	131 226	24 163	7265	**324 094**
Goats (domestic)		7	80	4	12	**103**
Goats (wild)			18			**18**
Guinea pigs (lab)		88		373	3395	**3856**
Hares (wild)		3				**3**
Horses (domestic)	3	218		52	665	**938**
Koalas	400	1	758	49	13	**1221**
Laboratory mammals, other				1178	945	**2123**

Animal Type	Project purpose					Total
	Animal management/ production	Educational	Environmental	Human/animal biology	Human/animal health/welfare	
Lizards	25	145	822	806	33	**1831**
Macaques		42		22	34	**98**
Macropods		189	780	1052	93	**2114**
Marmosets		18		60		**78**
Mice (lab)	4971	8352	112	348 635	122 136	**484 206**
Mice (wild)			214	5		**219**
Monotremes		10	135	73	30	**248**
Native mammals, other	6	81	1626	41	50	**1804**
Native rats, mice		146	2463	1		**2610**
Other domestic mammal	6	106			20	**132**
Pigs (domestic)	143	120		364	1418	**2045**
Possums, gliders	5	85	524	228	6	**848**
Poultry	4019	627	16	1634	22 916	**29 212**
Rabbits (lab)		87		991	588	**1666**
Rabbits (wild)			5			**5**
Rats (lab)	101	1167	8	17 749	7226	**26 251**
Rats (wild)		1	374			**375**
Reptiles, other			45			**45**
Seals, sealions			1795	8	24	**1827**
Sheep (domestic)	70 325	36 145	106	3208	7381	**117 165**
Snakes		1	26			**27**
Tortoises, turtles			172		38	**210**
Whales, dolphins			123			**123**
Wombats		1	35		12	**48**
Total	**262 698**	**57 582**	**162 600**	**410 028**	**191 599**	**1 084 507**

Table 2: Number of animals used, by type of animal and animal source, 2013

Animal Type	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Animals removed from natural habitat	Colony/ zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Privately owned animals on a farm	Other	
Amphibians			7234	311	24	1083		810			70	**9532**
Birds (exotic wild)			186	24								**210**
Birds (native captive)					283	119		326			81	**809**
Birds (native wild)			18 643	12								**18 655**
Birds, other			1344			55					2	**1401**
Cats (non-wild)			4				50	170	92		106	**422**
Cats (wild)			45		6	21						**72**
Cattle (domestic)						1380		1588	50	16 398	64	**19 480**
Cephalopods			440	2								**442**
Crustaceans			18 134	380		4337						**22 851**
Dasyurids			808		42							**850**
Dogs (non-wild)						137	4	201	421	161	954	**1878**
Dogs, foxes wild			139	9		53						**201**
Exotic feral mammals, other			4					8				**12**
Exotic zoo mammals					23							**23**
Ferrets (lab)						2126						**2126**
Fish			127 142	3902	15	5537		187 122	74		302	**324 094**
Goats (domestic)						16				80	7	**103**
Goats (wild)			18									**18**
Guinea pigs (lab)	3856											**3856**
Hares (wild)			3									**3**
Horses (domestic)						120		233	15	496	74	**938**
Koalas			1179		21	21						**1221**

Animal Type	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Animals removed from natural habitat	Colony/ zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Privately owned animals on a farm	Other	
Laboratory mammals, other								2123				**2123**
Lizards			1340	325	36	4		78			48	**1831**
Macaques	98											**98**
Macropods			1416	301	49			298			50	**2114**
Marmosets	78											**78**
Mice (lab)	479 397	4809										**484 206**
Mice (wild)			214								5	**219**
Monotremes			181		67							**248**
Native mammals, other			1632	4	159			9				**1804**
Native rats, mice			2610									**2610**
Other domestic mammal								76		20	36	**132**
Pigs (domestic)						1960				81	4	**2045**
Possums, gliders			728	5	115							**848**
Poultry						23 884		5285		29	14	**29 212**
Rabbits (lab)	1644	22										**1666**
Rabbits (wild)			5									**5**
Rats (lab)	26 153	98										**26 251**
Rats (wild)			375									**375**
Reptiles, other			45									**45**
Seals, sealions			1819		8							**1827**
Sheep (domestic)						3619		3544		109 979	23	**117 165**
Snakes			27									**27**
Tortoises, turtles			183	2	25							**210**
Whales, dolphins			123									**123**
Wombats			48									**48**
Total	**511 226**	**4929**	**186 069**	**5277**	**873**	**44 472**	**54**	**201 871**	**652**	**127 244**	**1840**	**1 084 507**

Table 3: Number of animals used, by type of animal and procedures, 2013

Animal Type	Procedure type															Total
	Aversive stimuli	Central nervous system	Genetic modification	Immunomodulatory methods	Infection induction	Ionising radiation	Long term attachment/ insertion	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity	Other procedure	
Amphibians			80	420											9032	**9532**
Birds (exotic wild)															210	**210**
Birds (native captive)	52			119			38								600	**809**
Birds (native wild)							1854								16 801	**18 655**
Birds, other															1401	**1401**
Cats (non-wild)				76			77			2	16				251	**422**
Cats (wild)							1								71	**72**
Cattle (domestic)				791	24		35					17		36	18 577	**19 480**
Cephalopods															442	**442**
Crustaceans	15						4159								18 677	**22 851**
Dasyurids							14								836	**850**
Dogs (non-wild)	231	4		267	20		3							16	1337	**1878**
Dogs, foxes wild							8								193	**201**
Exotic feral mammals, other					8										4	**12**
Exotic zoo mammals	10						8								5	**23**
Ferrets (lab)				72	1945							90			19	**2126**
Fish	211		14 818		540		1212				2414			3855	301 044	**324 094**
Goats (domestic)												16			87	**103**
Goats (wild)							15								3	**18**
Guinea pigs (lab)		2	24	372	447		125				93	42		147	2604	**3856**
Hares (wild)															3	**3**
Horses (domestic)				128	3	2	1					125		14	665	**938**
Koalas							48								1173	**1221**
Laboratory mammals, other		47									362				1714	**2123**
Lizards	33						190								1608	**1831**
Macaques				6	28		10								54	**98**

Animal Type	Procedure type															Total
	Aversive stimuli	Central nervous system	Genetic modification	Immunomodulatory methods	Infection induction	Ionising radiation	Long term attachment/ insertion	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity	Other procedure	
Macropods	16						461								1637	**2114**
Marmosets		37													41	**78**
Mice (lab)	1667	5278	73 813	22 541	61 104	16 530	1414	501	43 505		66 554	797	0	1617	188 885	**484 206**
Mice (wild)							47								172	**219**
Monotremes							72								176	**248**
Native mammals, other					9		119								1676	**1804**
Native rats, mice							225								2385	**2610**
Other domestic mammal												20			112	**132**
Pigs (domestic)	117			171	960		69				68		56	40	564	**2045**
Possums, gliders							8								840	**848**
Poultry	185		4213	2316	17 748							104			4646	**29 212**
Rabbits (lab)				448	6		295	24			150	223	0		520	**1666**
Rabbits (wild)															5	**5**
Rats (lab)	849	747	2093	36	262		1274	62	66		7008			298	13 556	**26 251**
Rats (wild)							6								369	**375**
Reptiles, other															45	**45**
Seals, sealions							14								1813	**1827**
Sheep (domestic)		24		427	249		614	2			385	9		68	115 387	**117 165**
Snakes															27	**27**
Tortoises, turtles							15								195	**210**
Whales, dolphins															123	**123**
Wombats							12								36	**48**
Total	**3386**	**6139**	**95 041**	**28 190**	**83 353**	**16 532**	**12 443**	**589**	**43 571**	**2**	**77 050**	**1443**	**56**	**6091**	**710 621**	**1 084 507**

Table 4: Number of animals used, by type of animal and impact of procedure, 2013

Animal Type	Procedure impact								Total
	Animal unconscious without recovery	Observational study, minor interference	Minor intervention, no anaesthesia	Minor operative procedure with recovery	Minor physiological challenge	Surgery with recovery	Major physiological challenge	Death as an end point	
Amphibians	1067	2190	5322	7	80	866			**9532**
Birds (exotic wild)		146	16		48				**210**
Birds (native captive)	12	351	35	55	356				**809**
Birds (native wild)	69	9346	9225	15					**18 655**
Birds, other		1346	55						**1401**
Cats (non-wild)	32	215	90	25		60			**422**
Cats (wild)		50		1				21	**72**
Cattle (domestic)	56	6677	11 999	159	459		130		**19 480**
Cephalopods		2	407	33					**442**
Crustaceans	41	6508	12 471	3831					**22 851**
Dasyurids	6	144	694	6					**850**
Dogs (non-wild)	95	804	792	89	70	28			**1878**
Dogs, foxes wild		111	35	8				47	**201**
Exotic feral mammals, other		4				8			**12**
Exotic zoo mammals		20	3						**23**
Ferrets (lab)	91				1834		201		**2126**
Fish	107 23	189 388	100 810	10 143	4353	291	8386		**324 094**
Goats (domestic)	12	87	4						**103**
Goats (wild)		3	15						**18**
Guinea pigs (lab)	438	473	18	127	16	207	1638	939	**3856**
Hares (wild)		3							**3**
Horses (domestic)		452	320	18	32		116		**938**
Koalas		944	77	200					**1221**
Laboratory mammals, other	1254	266	539			47		17	**2123**

Animal Type	Procedure impact								Total
	Animal unconscious without recovery	Observational study, minor interference	Minor intervention, no anaesthesia	Minor operative procedure with recovery	Minor physiological challenge	Surgery with recovery	Major physiological challenge	Death as an end point	
Lizards	138	890	673	12	118				**1831**
Macaques	6	39		41		12			**98**
Macropods	561	981		514	32	26			**2114**
Marmosets	20		15	3		40			**78**
Mice (lab)	102 315	40 422	111 542	43 669	703 74	45 541	64 909	5434	**484 206**
Mice (wild)		32	187						**219**
Monotremes		104	144						**248**
Native mammals, other	29	649	1041	76	9				**1804**
Native rats, mice	44	1487	1079						**2610**
Other domestic mammal		36	10		84	2			**132**
Pigs (domestic)	442	1312	147	8	59	76	1		**2045**
Possums, gliders	1	572	257	8	10				**848**
Poultry	15 297	1795	5861	136	3751		1971	401	**29 212**
Rabbits (lab)	829	54	111	26	29	460	157		**1666**
Rabbits (wild)		5							**5**
Rats (lab)	10 067	1396	1374	1090	1569	9208	1547		**26 251**
Rats (wild)	1	30	344						**375**
Reptiles, other			45						**45**
Seals, sealions		8	1813	6					**1827**
Sheep (domestic)	1141	106 212	6894	628	1127	1076	87		**117 165**
Snakes	5	5	17						**27**
Tortoises, turtles		168	10	32					**210**
Whales, dolphins		120	3						**123**
Wombats		36		12					**48**
Total	**144 792**	**375 883**	**274 494**	**60 978**	**84 410**	**57 948**	**79 143**	**6859**	**1 084 507**

Table 5: Number of animals used, by type of animal and project benefit, 2013

Animal Type	Project benefit														Total
	Biological products	Biology/ physiology	Demonstration	Diseases, animal	Diseases, human	Diseases, zoonotic	Domestic animal management	Environment	Pest management	Regulatory testing	Technique development	Training	Wildlife management	Xenotrans-plantation	
Amphibians		1865	139		7			3092	38		13	181	4197		**9532**
Birds (exotic wild)		64						69					77		**210**
Birds (native captive)		474	40									56	239		**809**
Birds (native wild)		1416				3103		6087			274	980	6795		**18 655**
Birds, other		55	101					101			479		665		**1401**
Cats (non-wild)		61	56	85	28		53			38	18	79	4		**422**
Cats (wild)				6				2	21			6	37		**72**
Cattle (domestic)	118	114	546	9969	17		5490	376		38	35	2777			**19 480**
Cephalopods			3					299					140		**442**
Crustaceans		45	2137					549					20 120		**22 851**
Dasyurids			4					176			5	180	485		**850**
Dogs (non-wild)	80	91	40	587	15	20	337			191	8	509			**1878**
Dogs, foxes wild				35				43	53			4	66		**201**
Exotic feral mammals, other					8								4		**12**
Exotic zoo mammals		3	8										12		**23**
Ferrets (lab)	23	13			1890	200									**2126**
Fish	2	21 043	260		11 225		3408	105 792	540		15	443	181 366		**324 094**
Goats (domestic)	12	4	7					80							**103**
Goats (wild)								15					3		**18**
Guinea pigs (lab)	24	283	10	998	2395	16				32	5	93			**3856**
Hares (wild)												3			**3**
Horses (domestic)	39	52	11	167	117	5	280			60	44	163			**938**
Koalas		29						1094				1	97		**1221**
Laboratory mammals, other		1178			945										**2123**
Lizards		797						609			44	63	318		**1831**
Macaques	6	22			28							42			**98**
Macropods		1002		39		50		20				189	814		**2114**

Animal Type	Project benefit														Total
	Biological products	Biology/ physiology	Demonstration	Diseases, animal	Diseases, human	Diseases, zoonotic	Domestic animal management	Environment	Pest management	Regulatory testing	Technique development	Training	Wildlife management	Xenotrans-plantation	
Marmosets		60										18			**78**
Mice (lab)	1776	167 980	876	12 804	289 945	704	500		16	691	1812	5681		1421	**484 206**
Mice (wild)								5	7				207		**219**
Monotremes								42				10	196		**248**
Native mammals, other		15		37		38		689	10		19	51	945		**1804**
Native rats, mice			17					1828			22	107	636		**2610**
Other domestic mammal	20		36				64					12			**132**
Pigs (domestic)	2	3	4	184	444		304			984	13	107			**2045**
Possums, gliders		220		6				109			60	25	428		**848**
Poultry	855	848	192	19 029	1483	4077	652		16	1819		241			**29 212**
Rabbits (lab)	178	428	8	468	489					0	25	70			**1666**
Rabbits (wild)													5		**5**
Rats (lab)	81	11 024	26	486	13371					198	133	900		32	**26 251**
Rats (wild)											1		374		**375**
Reptiles, other													45		**45**
Seals, sealions		8		50				1745					24		**1827**
Sheep (domestic)	602	1249	65 805	5729	911		5412	106		1645	26	35 680			**117 165**
Snakes								15			1		11		**27**
Tortoises, turtles		19						2					189		**210**
Whales, dolphins													123		**123**
Wombats								11				1	36		**48**
Total	**3818**	**210 465**	**70 326**	**50 679**	**323 318**	**8213**	**16 500**	**122 956**	**701**	**5696**	**3052**	**48 672**	**218 658**	**1453**	**1 084 507**

Table 6: Number of animals used, by type of animal and deaths, 2013

Animal Type	Animal death			Total animals
	Death as an endpoint	Other deaths	Total deaths	
Amphibians		2115	2115	**9532**
Birds (exotic wild)				**210**
Birds (native captive)		106	106	**809**
Birds (native wild)		96	96	**18 655**
Birds, other		55	55	**1401**
Cats (non-wild)		86	86	**422**
Cats (wild)	21		21	**72**
Cattle (domestic)		129	129	**19 480**
Cephalopods		408	408	**442**
Crustaceans		8945	8945	**22 851**
Dasyurids		8	8	**850**
Dogs (non-wild)		176	176	**1878**
Dogs, foxes wild	47	9	56	**201**
Exotic feral mammals, other		8	8	**12**
Exotic zoo mammals				**23**
Ferrets (lab)		744	744	**2126**
Fish		85 825	85 825	**324 094**
Goats (domestic)		17	17	**103**
Goats (wild)				**18**
Guinea pigs (lab)	939	2075	3014	**3856**
Hares (wild)				**3**
Horses (domestic)		12	12	**938**
Koalas		16	16	**1221**
Laboratory mammals, other	17	2052	2069	**2123**
Lizards		245	245	**1831**

Animal Type	Animal death			Total animals
	Death as an endpoint	Other deaths	Total deaths	
Macaques		18	18	**98**
Macropods		635	635	**2114**
Marmosets		52	52	**78**
Mice (lab)	5434	383 522	388 956	**484 206**
Mice (wild)		1	1	**219**
Monotremes		1	1	**248**
Native mammals, other		60	60	**1804**
Native rats, mice		46	46	**2610**
Other domestic mammal		13	13	**132**
Pigs (domestic)		538	538	**2045**
Possums, gliders		7	7	**848**
Poultry	401	26 530	26 931	**29 212**
Rabbits (lab)		1520	1520	**1666**
Rabbits (wild)				**5**
Rats (lab)		22 296	22 296	**26 251**
Rats (wild)		1	1	**375**
Reptiles, other				**45**
Seals, sealions		2	2	**1827**
Sheep (domestic)		3062	3062	**117 165**
Snakes		5	5	**27**
Tortoises, turtles		1	1	**210**
Whales, dolphins				**123**
Wombats				**48**
Total	**6859**	**541 437**	**548 296**	**1 084 507**

Table 7: Number of animals used, by project purpose and project benefit, 2013

Overall purpose	Project benefit														Total
	Biological products	Biology/ physiology	Demonstration	Diseases, animal	Diseases, human	Diseases, zoonotic	Domestic animal management	Environment	Pest management	Regulatory testing	Technique development	Training	Wildlife management	Xenotrans-plantation	
Educational objectives	162	1422	4849	148	489		68	2			2131	48 311			**57 582**
Environmental objectives		3745	96	50				113 266	701			73	44 669		**162 600**
Improvement of animal management/production	110	3730	65 343	3223	1582	1762	9938	1043		2850	55	70	172 992		**262 698**
Maintenance/improvement of human/animal health/welfare	2976	6217	8	39 168	126 393	4948	6374	2295		2155	654	146	265		**191 599**
Understanding of human/animal biology	570	195 351	30	8090	194 854	1503	120	6350		691	212	72	732	1453	**410 028**
Total	**3818**	**210 465**	**70 326**	**50 679**	**323 318**	**8213**	**16 500**	**122 956**	**701**	**5696**	**3052**	**48 672**	**218 658**	**1453**	**1 084 507**

Table 8: Number of animals used, by project purpose and procedure impact, 2013

Overall purpose	Procedure impact								Total
	Animal unconscious without recovery	Observational study, minor interference	Minor intervention, no anaesthesia	Minor operative procedure with recovery	Minor physiological challenge	Surgery with recovery	Major physiological challenge	Death as an end point	
Educational objectives	6612	42 044	7338	47	546	113	882		**57 582**
Environmental objectives	4136	36 459	113 462	3559	3986	25	905	68	**162 600**
Improvement of animal management/production	6466	228 784	18 827	5252	2320	258	791		**262 698**
Maintenance/improvement of human/animal health/welfare	32 251	25 363	41 970	17 013	23 944	19 072	25 195	6791	**191 599**
Understanding of human/animal biology	95 327	43 233	92 897	35 107	53 614	38 480	51 370		**410 028**
Total	**144 792**	**375 883**	**274 494**	**60 978**	**84 410**	**57 948**	**79 143**	**6859**	**1 084 507**

Table 9: Number of animals used, by project purpose and procedure, 2013

Overall purpose	Procedure															Total
	Aversive stimuli	Central nervous system	Genetic modification	Immuno-modulatory methods	Infection induction	Ionising radiation	Long term attachment/ insertion	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity	Other	
Educational objectives	64	12		19	551		91								56 845	**57 582**
Environmental objectives	15				572		2427							3855	155 731	**162 600**
Improvement of animal management/production	33		1989	500	2003		4281						56		253 836	**262 698**
Maintenance/improvement of human/animal health/welfare	1303	216	37 744	8287	45 187	3410	1040	76	10 945		24 469	604	0	1731	56 587	**191 599**
Understanding of human/animal biology	1971	5911	55 308	19 384	35 040	13 122	4604	513	32 626	2	52 581	839		505	187 622	**410 028**
Total	**3386**	**6139**	**95 041**	**28 190**	**83 353**	**16 532**	**12 443**	**589**	**43 571**	**2**	**77 050**	**1443**	**56**	**6091**	**710 621**	**1 084 507**

Table 10: Number of animals used by project purpose and animal source, 2013

Overall purpose	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Animals removed from natural habitat	Colony/ zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Private animals on farm	Other	
Educational objectives	9174	580	3468	287	40	4015	50	3090	142	36 385	351	**57 582**
Environmental objectives	120		154 043	3454	315	361		3745		562		**162 600**
Improved animal management/production	5072		15 462	486	228	11 329		159 792		70 153	176	**262 698**
Maintenance/improvement human/animal health/welfare	132 753	626	2602	54	188	23 653	4	12 582	394	17 848	895	**191 599**
Understanding of human/animal biology	364 107	3723	10 494	996	102	5114		22 662	116	2296	418	**410 028**
Total	**511 226**	**4929**	**186 069**	**5277**	**873**	**44 472**	**54**	**201 871**	**652**	**127 244**	**1840**	**1 084 507**

Table 11: Number of animals used, by impact of procedures and project benefit, 2013

Impact on animal	Project benefit														Total
	Biological products	Biology/physiology	Demonstration	Diseases, animal	Diseases, human	Diseases, zoonotic	Domestic animal management	Environment	Pest management	Regulatory testing	Technique development	Training	Wildlife management	Xenotrans-plantation	
Animal unconscious without recovery	573	67 471	417	15 872	45 368	68	3408	4416	38	614	262	5439	846		**144 792**
Observational study involving minor interference	733	19 329	68 853	6518	32 097		6928	11 692	48	2861	995	37 661	188 168		**375 883**
Minor conscious intervention, no anaesthesia	1338	40 954	830	14 399	71 994	6839	4034	104 443	299	964	1401	4846	22 067	86	**274 494**
Minor operative procedure with recovery	128	18 754	8	1936	29 615	165	1092	1462			186	90	7522	20	**60 978**
Minor physiological challenge	345	29 155	218	3222	48 907	63	782	9	236	1225	47	196	5		**84 410**
Surgery with recovery	19	9291		145	46 708		126	41		32	128	111		1347	**57 948**
Major physiological challenge	482	25 511		5067	45 558	1078	130	893	12		33	329	50		**79 143**
Death as an end point	200			3520	3071				68						**6859**
Total	**3818**	**210 465**	**70 326**	**50 679**	**323 318**	**8213**	**16 500**	**122 956**	**701**	**5696**	**3052**	**48672**	**218 658**	**1453**	**1 084 507**

Table 12: Number of animals used by impact of procedure and procedure, 2013

Impact on animal	Procedure															Total
	Aversive stimuli	Central nervous system	Genetic modification	Immuno-modulatory methods	Infection induction	Ionising radiation	Long term attachment/ insertion	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity	Other	
Animal unconscious without recovery	308	499	12 006	6264	13 207	414	302	50	1725	2	9399	126		8	100 482	**144 792**
Observational study involving minor interference	626	640	20 087	834	1995	333	225	99	2381		4882			743	343 038	**375 883**
Minor conscious intervention, no anaesthesia	503	273	30 774	11 266	2671	205	2867		2353		10 009	178	0	470	212 925	**274 494**
Minor operative procedures with recovery		115	10 923	1558	5352	440	5851		2816		11 772	121		283	21 747	**60 978**
Minor physiological challenge	1581		1627	6667	37 675	409	117	154	6844		16 590	696	56	3841	8153	**84 410**
Surgery with recovery	272	1364	11 565	617	260	22	3075		10 267		16 567				13 939	**57 948**
Major physiological challenge	96	3248	8059	984	18 673	14 709	6	286	17 185		7814	322		546	7215	**79 143**
Death as an end point					3520						17			200	3122	**6859**
Total	**3386**	**6139**	**95 041**	**28 190**	**83 353**	**16 532**	**12 443**	**589**	**43 571**	**2**	**77 050**	**1443**	**56**	**6091**	**710 621**	**1 084 507**

Table 13: Specified animals used in breeding colonies, 2013

Animal Type	Non-genetically modified	Genetically modified	Euthanasia, humane killing or unexpected death	Total
Guinea pigs (lab)	244		65	244
Macaques	226		8	226
Marmosets	273		3	273
Mice (lab)	389 049	584 660	711 077	973 709
Rabbits (lab)	197		40	197
Rats (lab)	33 308	1992	16 146	35 300
Total	**423 297**	**586 652**	**727 339**	**1 009 949**

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