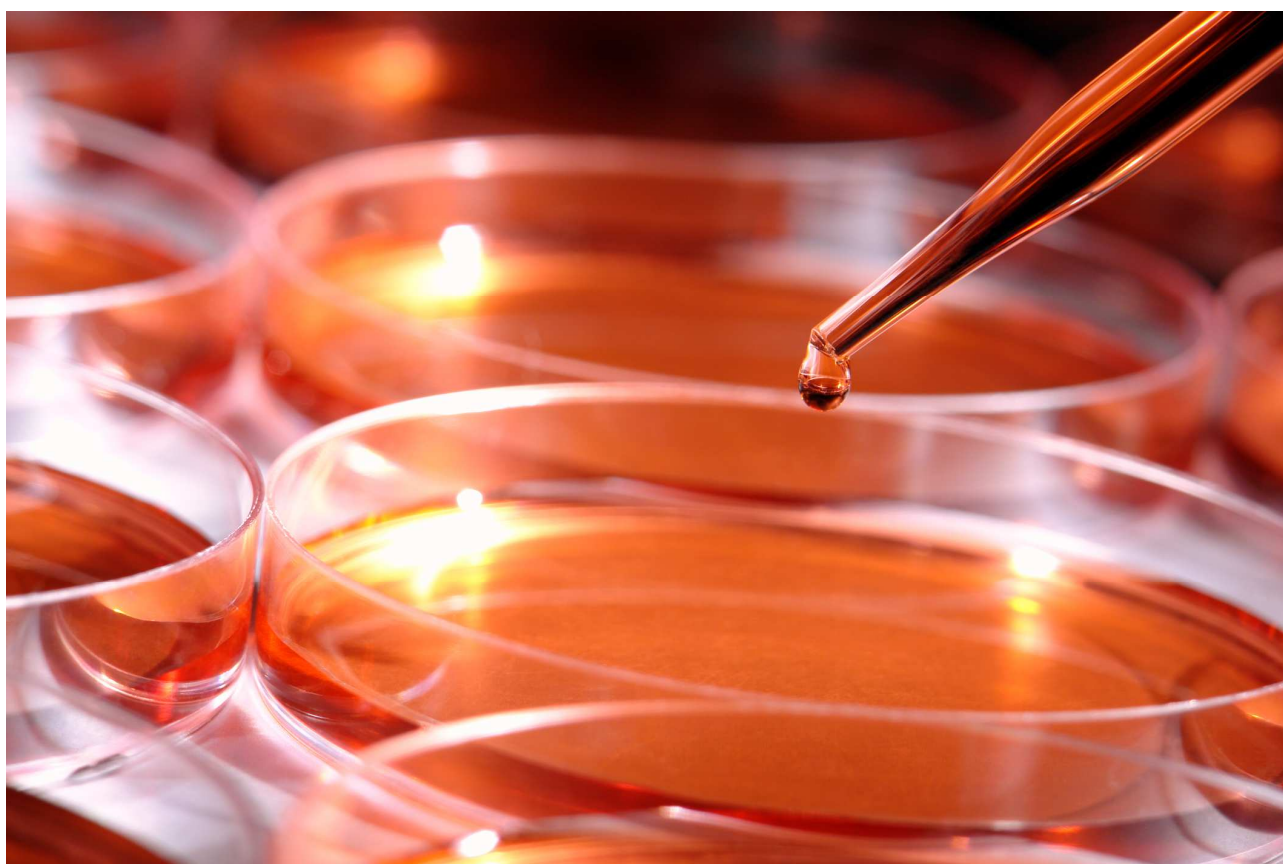


Statistics of animal use in research and teaching, Victoria

1 January 2012 to 31 December 2012

Report number 30



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Bureau of Animal Welfare Regulation & Compliance, Biosecurity, Victoria

Returns on the use of animals in licensed scientific institutions must be made to the Secretary of the Department of Environment and Primary Industries each year. Details of the return are based on Regulation 100 of the Prevention of Cruelty to Animals Regulations 2008. The Bureau of Animal Welfare 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 30) compiles the returns for 1 January to 31 December 2012. 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 2012 return guidelines, available at www.depi.vic.gov.au.

Table 1: Number of animals used, by type of animal and project purpose, 2012

Animal type	Project purpose					Total
	Animal management/production	Educational	Environmental	Human/animal biology	Human/animal health/welfare	
Amphibians	260	1 025	1 623	821	2 200	5 929
Birds (exotic captive)					63	63
Birds (exotic wild)		1	180	1 287		1 468
Birds (native captive)		100		287	70	457
Birds (native wild)	1	1 156	5 797	5 494	1 076	13 524
Birds, other		868				868
Cats (non-wild)	38	394		67	217	716
Cats (wild)		6	24		9	39
Cattle (domestic)	3 144	2 094	678	106	8 538	14 560
Cephalopods		36	126	35		197
Crustaceans		59	29 926	40	125	30 150
Dasyurids	40	160	1 612		11	1 823
Dogs (non-wild)	119	1 609	1 353	52	751	3 884
Dogs, foxes (wild)	15	4	133		17	169
Exotic feral mammals, other	2		5		5	12
Exotic zoo mammals	4				14	18
Ferrets (lab)				30	1 753	1 783
Fish	145 377	1 195	89 389	179 584	5 746	421 291
Foxes (wild)			7			7
Goats (domestic)		4		16	318	338
Goats (wild)			22			22
Guinea pigs (lab)	2	171		302	3 607	4 082
Horses (domestic)	127	347		21	346	841
Koalas	31	228	327		22	608
Laboratory mammals, other		4		94	1 386	1 484
Lizards		257	1 056	981		2 294
Macaques		24		10	42	76

Animal type	Project purpose					Total
	Animal management/production	Educational	Environmental	Human/animal biology	Human/animal health/welfare	
Macropods	29	98	625	2 414	221	3 387
Marmosets				116	43	159
Mice (lab)	41 410	8 631		398 314	138 209	586 564
Mice (wild)		13	415		25	453
Monotremes		13	138	14	34	199
Native mammals, other	8	239	871	730	139	1 987
Native rats, mice	15	203	2 068	12	6	2 304
Other domestic mammals		102		36	20	158
Pigs (domestic)	190	98		175	3 760	4 223
Possums, gliders	112	118	657	36	48	971
Poultry	15 484	559		1 126	42 574	59 743
Rabbits (lab)	20	148		436	925	1 529
Rabbits (wild)			260		28	288
Rats (lab)	3	1 004		19 488	5 117	25 612
Rats (wild)		1	884			885
Reptiles, other		4				4
Seals, sea lions	100		35	1 197	2	1 334
Sheep (domestic)	30 831	30 764		2 646	26 842	91 083
Snakes		8	287			295
Tortoises/turtles		2	226	182	42	452
Whales, dolphins		6	220	220		446
Wombats			1	20	10	31
Total	237 362	51 753	138 945	616 389	244 361	1 288 810

Table 2: Number of animals used, by type of animal and animal source, 2012

Animal type	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Colony/zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Privately owned animals on a farm	Animals removed from natural habitat	Other	
Amphibians			3 627	285	1 275		325			321	96	5 929
Birds (exotic captive)					63							63
Birds (exotic wild)			201				1 219			48		1 468
Birds (native captive)				116	90		164				87	457
Birds (native wild)			13 323				70				131	13 524
Birds, other			857								11	868
Cats (non-wild)						50	205	37			424	716
Cats (wild)			15	4	15						5	39
Cattle (domestic)					580		1 380	47	12 395		158	14 560
Cephalopods			13		6					174	4	197
Crustaceans			12 264		129		5			17 711	41	30 150
Dasyurids			1 750	71							2	1 823
Dogs (non-wild)			1 353		138	110	198	363	71		1 651	3 884
Dogs, foxes (wild)			150		2						17	169
Exotic feral mammals, other			7								5	12
Exotic zoo mammals				18								18
Ferrets (lab)					1 783							1 783
Fish			82 303		7 244		320 677	512	24	10 058	473	421 291
Foxes (wild)			7									7
Goats (domestic)					34				300		4	338
Goats (wild)			22									22
Guinea pigs (lab)	4 082											4 082
Horses (domestic)					54		363	17	361		46	841
Koalas			606								2	608
Laboratory mammals, other				4	3		1 477					1 484

Animal type	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Colony/zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Privately owned animals on a farm	Animals removed from natural habitat	Other	
Lizards			1 794	30	4		8			417	41	2 294
Macaques	76											76
Macropods			2 255	123			533			300	176	3 387
Marmosets	159											159
Mice (lab)	584 984	1 580										586 564
Mice (wild)			428				25					453
Monotremes			171	15							13	199
Native mammals, other			1 830	60			15			76	6	1 987
Native rats, mice			2 286				12				6	2 304
Other domestic mammals					25			30	36		67	158
Pigs (domestic)					3 894		34		295			4 223
Possums, gliders			805	124							42	971
Poultry					18 306		23 430		18 000		7	59 743
Rabbits (lab)	1 522	7										1 529
Rabbits (wild)			260		24						4	288
Rats (lab)	25 574	38										25 612
Rats (wild)			885									885
Reptiles, other					2						2	4
Seals, sea lions			1 332	2								1 334
Sheep (domestic)					3 912		9 333	3	77 804		31	91 083
Snakes			79							216		295
Tortoises/turtles			450		1		1					452
Whales, dolphins			446									446
Wombats			21								10	31
Total	616 397	1 625	129 540	852	37 584	160	359 474	1 009	109 286	29 321	3 562	1 288 810

Table 3: Number of animals used, by type of animal and procedure, 2012

Animal type	Procedure type														Total	
	Aversive stimuli	Central nervous system	Genetic modification	Immuno modulatory methods	Infection	Ionising radiation	Long attachment/insertion	Mono Clonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity		Other procedure
Amphibians			65	100											5 764	5 929
Birds (exotic captive)															63	63
Birds (exotic wild)									20						1 448	1 468
Birds (native captive)									1						456	457
Birds (native wild)								3 748							9 776	13 524
Birds, other															868	868
Cats (non-wild)				30	30		69			6	13			2	566	716
Cats (wild)															39	39
Cattle (domestic)	21			116	61		90					21		56	14 195	14 560
Cephalopods															197	197
Crustaceans	38														30 112	30 150
Dasyurids															1 823	1 823
Dogs (non-wild)	12			137	13									18	3 704	3 884
Dogs, foxes (wild)								25							144	169
Exotic feral mammals, other															12	12
Exotic zoo mammals															18	18
Ferrets (lab)					1 704							49			30	1 783
Fish	265		1 504		529		553				590			2 862	414 988	421 291
Foxes (wild)															7	7
Goats (domestic)								3				31			304	338
Goats (wild)															22	22
Guinea pigs (lab)		29	10		818		116				79	48	246		2 736	4 082
Horses (domestic)				13	17	4		5				39	30		733	841
Koalas							82								526	608
Laboratory mammals,		64									280				1 140	1 484

Animal type	Procedure type														Total	
	Aversive stimuli	Central nervous system	Genetic modification	Immuno modulatory methods	Infection	Ionising radiation	Long attachment/insertion	Mono Clonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity		Other procedure
other																
Lizards							314								1 980	2 294
Macaques					34		4			1					37	76
Macropods							882								2 505	3 387
Marmosets		44													115	159
Mice (lab)	1 619	6 278	126 666	24 329	63 113	18 880	3 160	452	77 767		59 455	1 169		1 648	202 028	586 564
Mice (wild)							25								428	453
Monotremes							79								120	199
Native mammals, other					15		748								1 224	1 987
Native rats, mice							86								2 218	2 304
Other domestic mammals												20			138	158
Pigs (domestic)			34	124			13				44	15		46	3 947	4 223
Possums, gliders							185								786	971
Poultry	18 302		20 754		7 766							46			12 875	59 743
Rabbits (lab)							264	24			57	787	24		373	1 529
Rabbits (wild)							24								264	288
Rats (lab)	595	2 342	840		200	69	2 173	49	31		4 129			325	14 859	25 612
Rats (wild)															885	885
Reptiles, other															4	4
Seals, sea lions							1 193								141	1 334
Sheep (domestic)		34		381	68		378	2			333	2		118	89 767	91 083
Snakes															295	295
Tortoises/turtles							206								246	452
Whales, dolphins							120								326	446
Wombats															31	31
Total	20 852	8 791	149 873	25 230	74 368	19 238	14 273	535	77 798	7	64 980	2 227	24	5 351	825 263	1 288 810

Potentially impacting, invasive or controversial procedures are listed. If none of these procedures was used, 'Other procedure' is indicated.

Table 4: Number of animals used, by type of animal and impact of procedure, 2012

Animal type	Procedure impact								Total
	Animal unconscious without recovery	Observational study, minor interference	Minor physiological challenge	Minor intervention, no anaesthesia	Minor operative procedure with recovery	Surgery with recovery	Major physiological challenge	Death as an end point	
Amphibians	1 383	2 319	105	1 618	3	337	164		5 929
Birds (exotic captive)	57			6					63
Birds (exotic wild)	1 219	181	24	20	24				1 468
Birds (native captive)	164	147	76		70				457
Birds (native wild)	4	4 891	70	8 507	51	1			13 524
Birds, other		858				10			868
Cats (non-wild)	37	271		39	7	332	30		716
Cats (wild)		18					14	7	39
Cattle (domestic)	46	9 584	96	4 620	100		114		14 560
Cephalopods	6	4		180	7				197
Crustaceans	244	4 524	27	20 977	4 378				30 150
Dasyurids		188		1 611	24				1 823
Dogs (non-wild)	140	2 157		865	55	659	8		3 884
Dogs, foxes (wild)		140			27		2		169
Exotic feral mammals, other		12							12
Exotic zoo mammals		15		2	1				18
Ferret (lab)	30		1 481				272		1 783
Fish	7 402	325 708	3 244	67 851	11 513	537	5 027	9	421 291
Foxes (wild)		7							7
Goats (domestic)	3	304		16		15			338
Goats (wild)		22							22
Guinea pigs (lab)	409	326		20	369	150	818	1 990	4 082
Horses (domestic)	1	228	52	511	5		44		841
Koalas		526		82					608
Laboratory mammals, other	335	425	601		34	64		25	1 484

Animal type	Procedure impact								Total
	Animal unconscious without recovery	Observational study, minor interference	Minor physiological challenge	Minor intervention, no anaesthesia	Minor operative procedure with recovery	Surgery with recovery	Major physiological challenge	Death as an end point	
Lizards	112	933	97	1 152					2 294
Macaques	2	2		3	64	5			76
Macropods	536	785	149	1 233	646	38			3 387
Marmosets	48	43				68			159
Mice (lab)	108 733	42 233	67 856	125 339	48 646	101 128	76 035	16 594	586 564
Mice (wild)		163		265	25				453
Monotremes		61		138					199
Native mammals, other		154	15	1 076	742				1 987
Native rats, mice	12	77		2 215					2 304
Other domestic mammals		86	8	20		44			158
Pigs (domestic)	104	3 410	46	617		46			4 223
Possums, gliders	6	543		229	193				971
Poultry	14 872	18 742	2 981	22 759			389		59 743
Rabbits (lab)	980	85	43	146		143	132		1 529
Rabbits (wild)		264			24				288
Rats (lab)	11 094	2 413	1 376	1 684	2 178	5 319	1 548		25 612
Rats (wild)		18		867					885
Reptiles, other		2				2			4
Seals, sea lions		102		1 176	56				1 334
Sheep (domestic)	1 024	71 774	396	16 967	162	724	36		91 083
Snakes	216	29		50					295
Tortoises/turtles		388		22	42				452
Whales, dolphins		326		120					446
Wombats		11			20				31
Total	149 219	495 499	78 743	283 003	69 466	109 622	84 633	18 625	1 288 810

Table 5: Number of animals used, by type of animal and project benefit, 2012

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	Xenotransplantation	
Amphibians		1 279	74		3			3 248				487	838		5 929
Birds (exotic captive)		63													63
Birds (exotic wild)		68							1,219			1	180		1 468
Birds (native captive)		211	40									130	76		457
Birds (native wild)		2 118	119	215		774		2 267				1 036	6 995		13 524
Birds, other			124								734	10			868
Cats (non-wild)		61	53	63	45		98			44	11	341			716
Cats (wild)				4					21				14		39
Cattle (domestic)	6	140	402	9279	21		2 025	690		136		1 861			14 560
Cephalopods		35	4					126			32				197
Crustaceans		52	46					25 098			125		4 829		30 150
Dasyurids								477				159	1 187		1 823
Dogs (non-wild)	65	15	38	351		133	170			131	57	1 571	1 353		3 884
Dogs, foxes (wild)								71	2			4	92		169
Exotic feral mammals, other													12		12
Exotic zoo mammals		13											5		18
Ferrets (lab)		30			1 481	272									1 783
Fish		177 567	868	169	2 914		144 962	81 490	529				12 792		421 291
Fox (wild)													7		7
Goats (domestic)	18	16	4	300											338
Goats (wild)								2					20		22
Guinea pigs (lab)	28	322	11	1 348	2 209	4						160			4 082

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	Xenotransplantation	
Horses (domestic)		6	9	306	62	12	108				5	333			841
Koalas								288				228	92		608
Laboratory mammals, other		94			1 386						4				1 484
Lizards		1 011	1	78				41				184	979		2 294
Macaques		10			42							24			76
Macropods		1 232		40		45		1 241				97	732		3 387
Marmosets		159													159
Mice (lab)	535	177 383	489	29 941	364 790	493	150	205		1 054	2 579	6 396		2 549	586 564
Mice (wild)					25			12				11	405		453
Monotremes								45				13	141		199
Native mammals, other			71			133		1 433				113	237		1 987
Native rats, mice		12						650				181	1 461		2 304
Other domestic mammals	20	8	23				28					79			158
Pigs (domestic)	13	46	2	294	187	15	286			3 236	64	80			4 223
Possums, gliders		20						196				83	672		971
Poultry	9 795	920	230	4 170	693	20 658	18 340			4 795		142			59 743
Rabbits (lab)	131	195		550	505					6	7	135			1 529
Rabbits (wild)					24								264		288
Rats (lab)	33	12 416	45	581	11 199					119	277	942			25 612
Rats (wild)			1					19					865		885
Reptiles, other												4			4
Seals, sea lions		2											1 332		1 334
Sheep (domestic)	492	1 084	13 824	35 492	857		8 926	56		48	13	30 291			91 083
Snakes								112				8	175		295
Tortoises/turtles		18						166				2	266		452
Whales, dolphins								325					121		446
Wombats						20							11		31
Total	11 136	376 606	16 478	83 181	386 443	22 559	175 093	118 258	1 771	9 569	3,908	45 106	36 153	2 549	1 288 810

Table 6: Number of animals used, by type of animal and deaths, 2012

Animal type	Animal death			Total animals
	Death as an end point	Other death	Total deaths	
Amphibians		1 898	1 898	5 929
Birds (exotic captive)		62	62	63
Birds (exotic wild)		1 219	1 219	1 468
Birds (native captive)		170	170	457
Birds (native wild)		32	32	13 524
Birds, other				868
Cats (non-wild)		108	108	716
Cats (wild)	7	8	15	39
Cattle (domestic)		234	234	14 560
Cephalopods		123	123	197
Crustaceans		10 054	10 054	30 150
Dasyurids		38	38	1 823
Dogs (non-wild)		172	172	3 884
Dogs, foxes (wild)		6	6	169
Exotic feral mammals, other				12
Exotic zoo mammals				18
Ferret (lab)		599	599	1 783
Fish	9	101 338	101 347	421 291
Fox (wild)				7
Goats (domestic)		23	23	338
Goats (wild)				22
Guinea pigs (lab)	1 990	923	2 913	4 082
Horses (domestic)		28	28	841
Koalas		2	2	608
Laboratory mammals, other	25	1 455	1 480	1 484
Lizards		169	169	2 294
Macaques		13	13	76

Animal type	Animal death			Total animals
	Death as an end point	Other death	Total deaths	
Macropods		797	797	3 387
Marmosets		98	98	159
Mice (lab)	16 594	405 110	421 704	586 564
Mice (wild)		31	31	453
Monotremes				199
Native mammals, other		32	32	1 987
Native rats, mice		49	49	2 304
Other domestic mammals		2	2	158
Pigs (domestic)		343	343	4 223
Possums, gliders		24	24	971
Poultry		40 053	40 053	59 743
Rabbits (lab)		1 345	1 345	1 529
Rabbits (wild)		24	24	288
Rats (lab)		22 724	22 724	25 612
Rats (wild)		1	1	885
Reptiles, other				4
Seals, sea lions		1	1	1 334
Sheep (domestic)		3 481	3 481	91 083
Snakes		216	216	295
Tortoises/turtles		1	1	452
Whales, dolphins				446
Wombats				31
Total	18 625	593 006	611 631	1 288 810

Table 7: Number of animals used, by project purpose and project benefit, 2012

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	Xenotransplantation	
Educational objectives	8	959	2 563	204	4		229	147	6		2 564	44 920	149		51 753
Environmental objectives		2 036	150	78			42	109 606	546				26 487		138 945
Improved animal management/ production	9 521	3 419	13 698	13 132	38 512		153 945	149		4 344	3	37	602		237 362
Maintenance/ improvement human/animal health/welfare	1 156	5 815		60 149	120 214	21 697	20 836	2 569		4 339	1 317	110	6 159		244 361
Understanding of human/animal biology	451	364 377	67	9 618	227 713	862	41	5 787	1 219	886	24	39	2 756	2 549	616 389
Total	11 136	376 606	16 478	83 181	386 443	22 559	175 093	118 258	1 771	9 569	3 908	45 106	36 153	2 549	1 288 810

Table 8: Number of animals used, by project purpose and procedure impact, 2012

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	6 344	35 406	5 835	2 014	677	1 051	426		51 753
Environmental objectives	2 817	33 633	90 431	7 431	2 986	159	1 481	7	138 945
Improved animal management/production	19 061	164 918	15 159	703	289	36 946	286		237 362
Maintenance/improvement human/animal health/welfare	18 585	61 671	63 380	9 881	28 321	23 756	20 158	18 609	244 361
Understanding of human/animal biology	102 412	199 871	108 198	49 437	46 470	47 710	62 282	9	616 389
Total	149 219	495 499	283 003	69 466	78 743	109 622	84 633	18 625	1 288 810

Table 9: Number of animals used, by project purpose and procedure, 2012

Overall purpose	Procedure														Total	
	Aversive stimuli	Central nervous system	Long term attachment/insertion	Genetic modification	Immuno modulatory methods	Infection induction	Ionising radiation	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity		Other
Educational objectives	41		6		21	97					2				51 586	51 753
Environmental objectives	38		3 739			529								2 862	131 777	138 945
Improved animal management/production	144		328	38 728	499	5 005						20			192 638	237 362
Maintenance/improvement human/animal health/welfare	18 398	579	653	52 536	5 048	23 870	5 621	55	27 714		23 757	1 079	24	2 396	82 631	244 361
Understanding of human/animal biology	2 231	8 212	9 547	58 609	19 662	44 867	13 617	480	50 084	7	41 221	1 128		93	366 631	616 389
Total	20 852	8 791	14 273	149 873	25 230	74 368	19 238	535	77 798	7	64 980	2 227	24	5 351	825 263	1 288 810

Potentially impacting, invasive or controversial procedures are listed. If none of these procedures were used, 'Other procedure' is indicated.

Table 10: Number of animals used, by project purpose and animal source, 2012

Overall purpose	Animal source											Total
	Specified animal supplier	Other specified animal source	Animals in their natural habitat	Colony/ zoo	Commercial supplier	Municipal pound	Own derivation	Private donation	Private animals on farm	Animals removed from natural habitat	Other	
Educational objectives	9 958	20	3 503	74	2 618	50	3 282	251	29 627	260	2 110	51 753
Environmental objectives			110 620	320	1 304		3 683		624	22 360	34	138 945
Improved animal management/production	41 435		452	299	18 843		147 903	149	27 553	560	168	237 362
Maintenance/improvement human/animal health/welfare	147 879	64	3 263	37	10 069	110	25 271	557	51 364	4 734	1 013	244 361
Understanding of human/animal biology	417 125	1 541	11 702	122	4 750		179 335	52	118	1 407	237	616 389
Total	616 397	1 625	129 540	852	37 584	160	359 474	1 009	109 286	29 321	3 562	1 288 810

Table 11: Number of animals used, by impact of procedure and project benefit, 2012

Impact on animal	Project benefit													Total	
	Biology/ physiology	Biological products	Diseases, animal	Diseases, human	Diseases, zoonotic	Domestic animal management	Demonstration	Environment	Regulatory testing	Technique development	Training	Pest management	Wildlife management		Xenotransplantation
Animal unconscious without recovery	66 706	9 995	2 920	50 855	157	2 327	435	4 456	4 001	503	5 348	1 219	295	2	149 219
Observational study involving minor interference	175 806	8	31 042	29 219		168 265	14 975	25 011	3 563	1 032	33 144		13 434		495 499
Minor conscious intervention, no anaesthesia	51 379	95	28 478	70 666	21 578	3 517	382	81 127	898	463	5 154		19 232	34	283 003
Minor operative procedure with recovery	19 603	108	4 554	34 006	120	431		5 644	42	1 793	164		2 936	65	69 466
Minor physiological challenge	31 587	370	3 654	39 965	212	353	266	562	1 065		245	364	100		78 743
Surgery with recovery	8 698	15	6	97 035		54		172		117	1 051		26	2 448	109 622
Major physiological challenge	22 818	545	1 669	56 946	492	146	420	1 286				181	130		84 633
Death as an end point	9		10 858	7 751								7			18 625
Total	376 606	11 136	83 181	386 443	22 559	175 093	16 478	118 258	9 569	3 908	45 106	1 771	36 153	2 549	1 288 810

Table 12: Number of animals used, by procedure and impact of procedure, 2012

Impact on animal	Procedure														Total	
	Aversive stimuli	Central nervous system	Long term attachment/insertion	Genetic modification	Immuno modulatory methods	Infection induction	Ionising radiation	Monoclonal antibody production	Neoplasia	Neuromuscular block, electro-immobilisation	Other disease	Polyclonal antibody production	Skin irritancy	Toxicity		Other
Animal unconscious without recovery	543	381	2 126	13 783	2 876	5 274	430		1 579	7	7 972	763		939	112 546	149 219
Observational study involving minor interference	18 813	557	380	13 976	705	298	109	98	2 891		3 412			813	453 447	495 499
Minor conscious intervention, no anaesthesia	253	336	5 997	52 439	10 611	1 187	206	135	12 084		6 602	284		154	192 715	283 003
Minor operative procedure with recovery	36	121	2 841	10 227	3 609	10 060	116	10	6 647		11 213	68		401	24 117	69 466
Minor physiological challenge	864	170		4 246	6 514	24 703	2 793		12 684		16 018	953	24	2 450	7 324	78 743
Surgery with recovery	102	5 046	2 929	53 944	380	235	69	3	14 184		12 129	12			20 589	109 622
Major physiological challenge	241	2 180		1 258	535	21 913	15 515	289	27 729		7 634	147		594	6 598	84 633
Death as an end point						10 698									7 927	18 625
Total	20 852	8 791	14 273	149 873	25 230	74 368	19 238	535	77 798	7	64 980	2 227	24	5 351	825 263	1 288 810

Potentially impacting, invasive or controversial procedures are listed. If none of these procedures were used, 'Other procedure' is indicated.

Table 13: Specified animals used in breeding colonies, 2012

Animal type	Non-genetically modified	Genetically modified	Euthanasia, humane killing or unexpected death	Total
Guinea pigs (lab)	320		184	320
Macaques	244		7	244
Marmosets	146		1	146
Mice (lab)	396 710	578 240	680 213	974 950
Rabbits (lab)	214		23	214
Rats (lab)	31 886	1 381	17 904	33 267
Total	429 472	579 669	698 332	1 009 141

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