

The AVA-ANKC Australian Canine Eye Scheme

ANNUAL BREED SUMMARY REPORT

July 2013 to June 2014

This Report covers the annual ACES returns on approximately 70 breeds on the ANKC register, summarising those findings in detail. Attention is also drawn to a further 80 breeds where NO dogs have been presented for ACES Certification in the last year, although many of these may be subject to hereditary eye diseases.

Single or double asterisk marks against the names of **fifteen breeds** in this report recognise those instances where highly committed owners around Australia are working together actively in the interests of improved health – in ways that *either* have achieved impressive sampling levels amongst current breeding stock *or* have already demonstrated significant gains in expected long-term selection outcomes.

Other breeds may show a superscript notation, explained as follows:

(1) For any **well-established breed** with potentially significant eye comfort or vision-threatening defects, breeders need to be vigilant over the longer term while Breed Clubs can help to promote policies that will ensure normal eye health and function.

(2) For a promising but **as yet un-proven breed** to be able to cope with any future rise in public popularity, thorough eye screening should be undertaken across the active breeding population - *early* in the breed's development rather than too late!

(3) In those breeds where **skull shape, exaggerated eyelid dimensions** and **globe prominence** may predispose to discomfort, 'dry eye' and/or the risk of ulceration, routine ACES screening would provide a basis on which to encourage moderation in the desired phenotype, as well as changing the emphasis applied in breed judging.

(*) This breed is being well monitored on the whole. The Breed Clubs are encouraged to continue with effective screening policies, and to monitor future progress State by State.

(**) This breed is being very closely monitored in general terms, but not necessarily to the same degree in every State. To be more meaningful, breeders in States where the bulk of ACES reports are generated should encourage their interstate counterparts to ensure ALL reports are processed through the **AVA-ANKC Australian Canine Eye Scheme**.

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ACES Report Year: July 2013 - June 2014		Group: 1 Toys						Current report date 30 June 2014
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Affenpinscher	1 (1)	1 (1)						
Australian Silky Terrier	0 (0)							
Bichon Frise ²	4 (13)	4, (12)					4 adults is only 0.9% of annual registrations.	
Cavalier King Charles Spaniel *	215 (305)	179 (237)	Multifocal retinal dysplasia 11 Congen hereditary cataract 5 CHC with post. lenticonus +/- a unilateral microphthalmia 3	Hereditary cataract (nuclear) 1 assumed later onset	breed-related congenital KCS 3 lens keratoconus (unilat) 5	distichiasis 8 corneal lipidosis 8 corneal dystrophy 1	The (*) indicates that the CKCS breed is being adequately sampled and monitored by the Breed Clubs in most States. 215 adults is 8.1% of annual registrations (>10% is ideal), but this is undoubtedly partly due to the high number of pet bred litters, beyond the reach of the CKCS Clubs' Members Code of Ethics. An important observation in the last 3 years has been the appearance in at least 3 States of vision-limiting congenital lens cataracts (usually one, +/- lenticonus) with a subtle microphthalmia occurring in the same eye.	9 Litters, 33 pups (NB : 4 litters presented only 1 or 2 pups when 4 or 5 pups were shown as survived. It is not in the breed's interest to submit selectively - all surviving pups should be screened to gain maximum information. distichiasis - 1P PPM 1P MRD (?) retinal folds only 1P microphthalmia, CHC + lenticonus 1P
Chihuahua (Long Coat)	0 (0)							
Chihuahua (Smooth Coat)	0 (0)							
Chinese Crested Dog	0 (1)	0 (1)						
English Toy Terrier	0 (0)							
Griffon Bruxellois ²	6 (15)	6 (14)					6 adults is 3.6% of annual registrations. While numbers are down on last year, the apparent lack of evidence of a major threat to vision is encouraging. More useful data could be produced with sample sizes >10%.	
Havanese ²	5 (22)	5 (20)					5 adults is < 2.0 % of annual registrations. This is a breed with a promising future, so every effort should be made to monitor the eyes of all active breeding stock, and to make sure any new imports come in pre-certified.	
Italian Greyhound	2 (10)	2 (8)						
Japanese Chin	0 (0)							
King Charles Spaniel	0 (0)							
Lowchen ²	5 (2)	4 (2)		G PRA 1			5 adults is 7.5 % of annual registrations. This is a breed with a promising future, so every effort should be made to monitor the eyes of all active breeding stock, and to make sure any new imports come in pre-certified.	
Maltese ¹	0 (0)							
Miniature Pinscher	0 (0)							
Papillon	0 (1)	0 (1)						

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Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised	
Pekingese ³	0 (0)						For a once highly popular breed, registrations have dropped back to only about 150 a year. Pokes have few eye problems, apart from the risk of severe corneal ulceration caused by contact with prominent nasal skin folds.		
Pomeranian	0 (3)	0 (2)							
Pug ¹	0 (3)	0 (0)					ANKC registers around 1400 new Pugs each year, which means very few if any breeding stock is being ACES-screened. Pigmentary keratitis is a common chronic eye problem, that could be better monitored if we had more information on predisposing factors.		
Tibetan Spaniel	6 (0)	6 (0)					6 adults is 2.3% of annual registrations.		
Yorkshire Terrier	0 (0)								
Toy Group Totals	244 (376)	207 (298)							

ACES Report Year: July 2013 - June 2014		Group: 2 Terriers					Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Airedale Terrier	0 (0)							
American Staffordshire Terrier ¹	0 (1)						ANKC breed registrations (2013) : 2337 Given levels of breeding activity both within <i>and outside</i> the ANKC Register, the rise in numbers of this breed cannot be ignored. Owners should monitor the eyes of all active breeding stock, and also make sure that any new imports are pre-certified in their country of origin.	
Australian Terrier	0 (5)	0 (5)					ANKC breed registrations (2012) : 308	
Bedlington Terrier	0 (0)							
Border Terrier	0 (0)							
Bull Terrier ¹	0 (0)						ANKC breed registrations (2012) : 1134 More adults need to be submitted, to better correlate DNA test results - PLL.	
Bull Terrier Miniature ¹	0 (2)	0 (2)					ANKC Breed registrations (2012) : 351 More adults need to be submitted, to better correlate DNA test results - PLL.	
Cairn Terrier	0 (0)							
Dandie Dinmont Terrier	0 (1)	0 (1)						
Fox Terrier (Smooth)	0 (0)							
Fox Terrier (Wire)	0 (0)							
Glen of Imaal Terrier	0 (0)							
Irish Terrier	0 (1)	0 (1)						
Jack Russell Terrier ²	8 (2)	8 (2)					8 adults is 0.94% of annual registrations (848 in 2013). Breeders need to submit many more breeding age dogs, to bring the tested sample up towards 10%. DNA testing for the PLL gene is not enough!	
Kerry Blue Terrier	0 (0)							
Lakeland Terrier	0 (0)							
Manchester Terrier	0 (0)							
Norfolk Terrier	0 (0)							
Norwich Terrier	0 (0)							
Parson Russell Terrier	0 (2)	0 (2)						
Scottish Terrier	1 (0)	1 (0)						
Sealyham Terrier	0 (0)							
Skye Terrier	0 (0)							
Soft Coated Wheaten Terrier ²	3 (5)	3 (5)						1 Litter (1 pup) PPM (I-I) fine

ACES Report Year: July 2013 - June 2014		Group: 2 Terriers					Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Staffordshire Bull Terrier ¹	27 (19)	21 (14)	PHPV (remnants only) 2	Hereditary cataract 1 (nuclear cataract)	PPM (I-C) endothelial remnants 1	distichiasis 1 arcus 1 phthisical globe 1	corneal (?) 27 adults is 0.6% of annual registrations (4539 in 2013). Those breeders using the scheme are to be commended. Clearly litter screening is worthwhile, as well.	19 Litters (78 pups) 4 litters - significant distichiasis 2 litters - PHPV evidence 2 litters - PPM, MRD(?) retinal folds only
Tenterfield Terrier	0 (0)							
Welsh Terrier	0 (0)							
West Highland White Terrier	0 (0)						ANKC breed registrations (2013) : 816	
Terrier Group Totals	39 (38)	32 (32)						

ACES Report Year: July 2013 - June 2014	Group: 3 Gundogs						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Bracco Italiano	0 (0)							
Brittany	10 (10)	10 (8)					10 adults is 5.7% of annual registrations	
Chesapeake Bay Retriever	0 (0)							
Clumber Spaniel	0 (3)	0 (1)						
Cocker Spaniel (Eng.) ¹	0 (5)	0 (2)					ANKC breed registrations (2013) : 1406	
Cocker Spaniel (American) ³ *	38 (43) gonioscopy done on 9	27 (22)	MRD 1 (retinal folds - at 3yrs) goniodysgenesis 3 ICA >75% open 1 ICA >50% open 1 ICA <50% open 1 normal on gonioscopy 6	prcd PRA 1 (?) hereditary cataract (post-cortical) 1		distichiasis 6	38 adults is 40% of annual registrations (94 in 2013) so that does show breeders are aware of MRD and distichiasis etc. While gonioscopy is considered a once-only test, we could be more confident about these seemingly good results if we knew that all animals in any breeding program were being gonioscopy tested.	1 Litter (5 pups) all normal
Curly Coated Retriever	0 (4)	0 (4)						
English Setter	0 (0)							
English Springer Spaniel ²	16 (52)	11 (42)	MRD 1		lacrima punctal atresia 2	distichiasis 2 corneal lipidosis (unilat.) 1	16 adults is 2.95% of annual registrations (542 in 2013, well up on 2012). For such a highly adaptable family breed, one would hope to see this sample size climb to 10%.	1 Litter (7 pups) all normal
Field Spaniel	1 (9)	1 (8)						
Flat Coat Retriever *	15 (14) gonioscopy done on 12	14 (10)	goniodysgenesis 1 (ICA open 75%, some PLD) normal on gonioscopy 11				15 adults is 15.6% of annual registrations (96 in 2012, down again in 2013). Breeders have been monitoring gonioscopy test results for a long time and this policy does appear to be delivering acceptable results.	
German Shorthaired Pointer	0 (2)	0 (2)						
German WH Pointer	3 (0)	3 (0)						

ACES Report Year: July 2013 - June 2014	Group: 3 Gundogs						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Golden Retriever **	516 (501) gonioscopy done on 36	465 (467) gonioscopy excl.	MRD 7 (1 geo)	hereditary cataract (PPSC) 17 no dogs showed clinical evidence of PRA	Goniodysgenesis 10 ICA open >75% 4 ICA open >50% 5 ICA open <50% 1 normal on gonioscopy 26	distichiasis 6 corneal dystrophy (bilat.) 8 cortical cataract (pres. non-inherited) 4	516 adults is 17.9% of annual registrations (2876 in 2012) and this makes the relative rarity of serious vision-threatening defects all the more creditable. Goniodysgenesis (compromise of the aqueous outflow) is not a Scheduled item yet more owners are requesting that as a useful once-only test. 2 forms sent in voided - owner details present but reports not completed (?)	3 Litters (8,8,8) but only 7 pups presented in all. Juvenile spastic entropion signs detected in 2 pups
Gordon Setter	5 (6)	3 (4)			lacrimal punctal atresia 2		5 adults is 4.95% of annual registrations	
Hungarian Vizsla	2 (1)	2 (1)						
Hungarian WH Vizsla	0 (0)							
Irish Red&White Setter	0 (0)							
Irish Setter	0 (0)							
Irish Water Spaniel	0 (3)	0 (1)						
Labrador Retriever ¹ **	205 (158) (gonioscopy not routine)	195 (148)	MRD 1	hereditary cataract (PPSC) 4 no dogs showed clinical evidence of PRA		distichiasis 1 corneal dystrophy (bilat.) 3 PFA (lateral canthal entropion) 1	205 adults is 4.35% of annual registrations (4711 in 2012 and climbing) so that is not bad, given the number of pet litters bred. Guide Dogs (SA) presented >30 adults plus a few litters (some are X. Golden / Lab) all with very encouraging results, that are an example to other Guide Dog Schemes.	7 Litters (7,6,4,8,9,1,1) 36 pups - 35 Normal, MRD 1 1 Litter X. Golden/Labrador (5 pups) - reported Normal
Lagotto Romagnolo	1 (1)	1 (1)						
Large Munsterlander	0 (0)	0 (0)						
Nova Scotia Duck Tolling Retriever *	19 (10)	16 (7)		prcd PRA (?) 1 (dissimilar retinal abiotrophy OS, OD)	lacrimal punctal atresia 1	corneal lipidosis (unilat.) 1	19 adults is 24% of annual registrations (79 in 2013). Both scheduled conditions in this breed can also be reliably DNA-tested.	2 Litters (6,6) all Normal
Pointer	0 (0)	0 (0)						
Sussex Spaniel	0 (0)	0 (0)						
Weimaraner	7 (1)	7 (0)					7 adults is < 1.5% of annual registrations. The incidence of eye disease appears low.	
Weimaraner (Longhair)	0							

ACES Report Year: July 2013 - June 2014	Group: 3 Gundogs					Current report date 30 June 2014		
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Welsh Springer Spaniel ²	12 (11) gonioscopy done on 10	8 (2)	goniodysgenesis 2 ICA open >75% 1 ICA open <25% 1 (i.e. reported <u>90% affected</u>) normal on gonioscopy 8			distichiasis 1	12 adults is < 15% of annual registrations. Even though gonioscopy is requested more often than not (10 out of 12 in 2014), the degree of angle compromise due to changes in trabecular meshwork appears highly variable from recent years' figures. This suggests that the Breed Clubs should be considering possible ANKC registration restrictions based on gonioscopy findings.	
<u>Gundog Group Totals</u>	850 (834)	763 (730)						

ACES Report Year: July 2013- June 2014	Group: 4 Hounds						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Afghan Hound	1 (0)	1						
Australian Dingo	0 (0)						It would be good to see an organised effort to begin monitoring eye and vision defects in managed dingo populations, e.g. under State Government conservation control.	
Basenji *	12 (14)	3 (9)	PPM (I-C) endothelial fibrosis 2		PPM (iris to iris, fine strands) 9		12 adults is 10% of annual registrations (120-140, in a breed that cycles only once a year). While PPMs are scheduled (I-C, I-L), the number of dogs presenting clinically with vision-threatening opacities of the cornea or lens is now quite small.	2 Litters, 10 pups a few PPM strands (I-I) 2 P - (I-C) endothelial fibrosis from early attachment sites
Basset Fauve De Bretagne 2	0 (0)						The fauve (fawn) Basset is a balanced mid-sized breed that has potential as a popular house pet. As for any such breed, new imports plus all active breeding stock should be systematically ACES tested until a reliable gene pool is established.	
Basset Hound 3	6 (4) gonioscopy done on 5	3 (4)	goniodysgenesis 3 ICA open >75% 1 ICA open >50% 2				6 adults is 2.8% of annual registrations (215 in 2013). Five gonioscopy tests is hardly a meaningful sample, in a breed with a known predisposition to vision loss due to primary glaucoma . The continuing tendency to favour dogs with 'haws' showing (lower lid ectropion + elongated palpebral fissures) is the reason for Note 3: <u>Neat fitting</u> , functional eyelids should always be encouraged as part of normal health.	
Beagle	0 (0)						ANKC registrations average around 800/year. Breeders seem little concerned about routine eye screening, hence they have no base-line incidence figures on which to develop any policy.	
Bloodhound	0 (0)							
Bluetick Coonhound	0 (0)							
Borzoi	0 (0)							
Dachshund Standard Long Haired 1	0 (0)						Is it of any concern that in no Dachsund variety is routine ACES screening being encouraged?	
Dachshund Standard Smooth Haired 1	0 (0)						Is it of any concern that in no Dachsund variety is routine ACES screening being encouraged?	
Dachshund Standard Wire Haired	0 (0)							
Dachshund Miniature Long Haired 1	0 (0)						Breeders have access to a DNA test for PRA, but are not gathering data on other eye conditions.	
Dachshund Miniature Smooth Haired 1	0 (0)						Breeders have access to a DNA test for PRA, but are not gathering data on other eye conditions.	
Dachshund Miniature Wire Haired	0 (0)							
Deerhound	0 (0)							
Finnish Spitz	0 (0)							
Foxhound	0 (0)							

ACES Report Year: July 2013- June 2014	Group: 4 Hounds						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Grand Basset Griffon Vendéen ²	0 (0)						Somewhat larger than the PBGV, these old French provincial breeds are longer in leg and much more agile than the typical Basset Hound. They are popular in Europe and are now being imported.	
Greyhound	0 (0)							
Hamiltonstovare	0 (0)							
Harrier	0 (0)							
Ibizan Hound	2 (0)				nuclear cataract ¹	posterior cortical cataract ¹		
Irish Wolfhound ²	0 (0)							
Norwegian Elkhound	0 (2)	0 (2)						
Otterhound	0 (0)							
Petit Basset Griffon Vendéen ²	1 (4)	1 (2)					This low-to-ground but otherwise active breed seems to have a lot going for it, but the local gene pool remains quite limited. Overseas evidence suggests they should all be gonioscopy screened.	
Pharaoh Hound	0 (0)							
Portuguese Podengo	0 (0)							
Rhodesian Ridgeback ¹	0 (0)						ANKC registrations average around 900/year. Breeders seem little concerned about routine eye screening, therefore they have no base line incidence figures on which to develop any policy.	
Saluki	2 (2)	2 (2)						
Sloughi	0 (0)							
Whippet ¹	0 (1)	0 (1)					With annual registrations over 700, this breed has a reputation for clear eyes and long-lasting vision. It would be good to gather data on incidental lens and fundus abnormalities, at least as a base line.	
Hound Group Totals	24 (27)	10 (20)						

ACES Report Year: July 2013- June 2014	Group: 5 Working Dogs						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Australian Cattle Dog ¹	5 (0)	4 (0)		hereditary cataract (OU, mature) 1		iris cyst present - visible in the vitreous space	5 adults is less than 0.5% of annual breed registrations. Given that this breed has three scheduled causes of blindness, a lot more adults of breeding age will need to present for routine ACES testing, for the results to be meaningful. Gonioscopy should also be considered as a useful once-only screening exercise.	
Australian Kelpie	1 (1)	1 (1)						
Australian Shepherd ^{1**}	83 (68)	74 (61)	NO CEA-CH reported	hereditary cataract (PPSC) 2	atypical cataract (ant. cortical) 1	distichiasis 4 corneal lipid dystrophy (bilat.) 2 ONH atrophy (unilat.) 1	83 adults is 12.8% of annual registrations (648 in 2012 and rising). The breed is enjoying widespread acceptance in rural communities and CEA appears no longer a big threat. Other adnexal, corneal & lens conditions need to be monitored however.	40 Litters (221 pups) 217 P ophthalmoscopically N. retinal folds (?MRD) 2 P suspect ONH coloboma OU 1 P
Australian Stumpy Tail Cattle Dog	1 (8)	1 (8)					prcd PRA is a known risk in this breed, and almost all of the gene pool is DNA tested.	
Bearded Collie	2 (2)	2 (2)						
Belgian Shepherd Dog (Groenendael) *	15 (12)	13 (10)		hereditary cataract (PPSC) 1	PPM I-I : forming a trans-pupillary web and therefore occluding vision		15 adults is 21.4% of annual registrations and these figures are representative across all four varieties. New stud animals are being imported and all are thoroughly pre-screened, which is probably why we are seeing so few cases of hereditary cataract.	
Belgian Shepherd Dog (Laekenois)	0 (0)	0 (0)						
Belgian Shepherd Dog (Malinois)	4 (5)	4 (4)					see above comments - Groenendael	
Belgian Shepherd Dog (Tervueren) *	12 (21)	12 (17)					see above comments - Groenendael	
Border Collie ^{1*}	38 (53) gonioscopy done on 34	35 (42) incl. gonio 29 excl. gonio 6	NO CEA-CH reported NO PLL reported (on clinical evidence)		goniodysgenesis ICA open >75% 1 ICA open >50% 2 ICA open <50% 2 normal on gonioscopy 29	distichiasis 1 PPSC type cataract reported 1 (not a known inherited eye disease in this breed)	38 adults is only a very small percentage of numbers registered annually, as many are bred in rural areas where ACES screening is not readily available. Even so, the results are probably indicative for the breed as a whole. The gonioscopy result on 30 (out of 34) is within normal limits, so the National Border Collie Council might now consider setting a threshold gonioscopy result to be met by both parents of any registered litter.	4 Litters (26 pups) all 26 P reported normal on ophthalmoscopic exam (no evidence of CEA-CH)
Bouvier Des Flandres	0 (3)	0 (1)						

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Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Briard	0 (0)							
Collie - Rough ¹	9 (2)	4 (1)	CEA -CH choroidal hypoplasia signs only (OU) 4			intra vitreal haemorrhage (cause unknown) 1 (no report on fundus appearance in the other eye) distichiasis 2 (reported in one litter) corneal dystrophy (bilat.) 1 (reported in one pup)	More adults presented than last year, but not nearly enough to give a clear picture of average vision in the adult population (370 registered in 2012). Of interest (#) is the fact that retinal folds are also reported, but only in more severe CEA groups (9 P, 12 P) . Sadly, the reporting of greater numbers of blind puppies (due to CEA-induced haemorrhage or detachment of the retina) is a reflection of the continued reluctance among breeders to apply positive selection pressure against the now very well-entrenched CEA-CH gene.	53 Litters (275 pups) 9 L (48 P) unaffected CEA or other defects 6 L (24 P) mild CH only, no other eye defects 16 L # (87 P) most pups CH-affected, often OU 22 L # (110 P) with severe CEA signs (24 with 1-2 colobomas, 12 with retinal detachments & in 7 of these clinical blindness was noted. # (superscript) indicates that in these two CEA-CH affected groups, 9 pups and 12 pups respectively were reported to have multiple retinal folds also (not reported previously).
Collie - Smooth ¹	3 (0)	0 (0)	CEA -CH choroidal hypoplasia signs only (OU) 3			distichiasis 2	In both Rough and Smooth Collies, it is not possible to report on any other potential threat to eye comfort or vision unless more dogs are presented after reaching maturity.	6 Litters (23 pups - 11, 3, 3, 2, 1) 15 pups in all showed mild CEA-CH signs; no pups were reported as having colobomas or vision-threatening retinal detachments
Finnish Lapphund ^{2 **}	28 (14) gonioscopy done on 2	26 (12)			goniodysgenesis normal morphology on gonioscopy 2 MRD 2		28 adults is 29.2% of annual registrations. For a newly introduced breed, the owners are doing all the right things, starting early.	9 Litters (47 pups) 1 P - retinal folds presumed transient
German Shepherd Dog (SC: normal coat)	3 (1)	3 (0)						
German Shepherd Dog (LSC: long coat)	1 (0)					presented with active GS Pannus lesions OU limbus		
Komondor	0 (0)							
Kuvasz	0 (0)							
Maremma Sheepdog	0 (3)	0 (3)						
Norwegian Buhund	0 (0)							
Old English Sheepdog	3 (9)	2 (6)				distichiasis 1		3 Litters (24 pups - 7, 10, 7) 1 P reported as having transient retinal folds
Polish Lowland Sheepdog	0 (0)							
Puli ²	2 (7)	2 (4)						1 Litter (7 pups) I-I PPM strands only - not significant

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Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Shetland Sheepdog ¹ *	9 (11)	6 (9)			PPM fine strands iris-cornea 1 PPM numerous strands iris - iris 2	distichiasis 1 dense cortical cataract (unilat.) 1 : probably acquired	9 adults is < 1.5% of annual registrations (steady at about 650 in 2012-13) so the fact that none of those presented had choroidal hypoplasia (part of the CEA Complex) is not very meaningful. While owners are using Litter Assessment to good advantage, too many are relying on that early screening result and are not putting up their breeding age adults for ACES testing. Good progress HAS been made in reducing the numbers of CEA-CH affected pups, but much more could be achieved if the DNA test was used NOT as an alternative, but as an adjunct to ACES .	97 Litters (357pups) 58 L (193 P) unaffected CEA or other defects (apart from 6 with minor PPM remnant scars) 26 L (110 P) choroidal hypoplasia only in one or both eyes - no vision threatening signs 13 L (50 P) colobomas reported (14); retinal detachments 1; retinal folds 3. 1 pup with post. axial lens opacity (intact hyaloid BV?)
Swedish Lapphund	0 (0)							
Swedish Vallhund	4 (6)	3 (5)				distichiasis 1 chorioretinal hyper-reflective scar		2 Litters (3 pups) - all normal
Welsh Corgi (Cardigan) ¹	1 (0)	1 (0)						
Welsh Corgi (Pembroke) ¹	10 (1)	9 (1)				localised 'halo' of retinal hyper-reflectivity OD 1 (over a BV, probably a focal haemorrhage scar)	10 adults is 2.9% of annual registrations. As the number of influential owners' kennels continues to fall away, that is no reason why breeders should not be testing their adults.	
White Swiss Shepherd Dog ²	0 (0)							
Working Group Totals	234 (227)	202 (187)						

ACES Report Year: July 2013 - June 2014	Group: 6 Utility						Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Akita	7 (2)	7 (2)					7 adults is 5.3% of annual registrations	
Alaskan Malamute	16 (12)	16 (12)					16 adults is 6.0% of annual registrations	
Anatolian Shepherd	0 (0)							
Bernese Mtn. Dog	11 (7)	11 (7)					11 adults is 3.4% of annual registrations	
Boxer	0 (2)	0 (1)						
Bullmastiff	0 (0)							
Dobermann	0 (0)							
Dogue de Bordeaux	0 (0)							
German Pinscher	2 (0)	2 (0)						
Leonberger **	10 (7) gonioscopy done on 1	9 (5)			goniodysgenesis normal on gonioscopy 1 There is no agreed policy on the need for gonioscopy testing, to our knowledge.	distichiasis 1	10 adults is a very credible 70% of annual registrations (14 in 2012), which means most if not all of the breeding stock is being screened year by year.	
Mastiff ³	0 (0)						152 registrations with ANKC in 2012	
Neapolitan Mastiff ³	0 (0)						141 registrations with ANKC in 2012	
Newfoundland	0 (0)							
Portuguese Water Dog	0 (0)							
Pyrenean Mastiff	0 (0)							
Pyrenean Mtn. Dog	0 (0)							
Rottweiler ³	0 (0)							
Russian Black Terrier	0 (0)							
Samoyed **	48 (40) gonioscopy done on 45	37 (22)			goniodysgenesis 5 ICA open >50% 2 ICA open <50% 2 ICA 'open but narrow' 1 (cons. N.) normal on gonioscopy 40	distichiasis 4	48 adults is >15% of annual registrations and almost all of these have undergone a gonioscopy test, at least once. These numbers have continued for four years now, with clear patterns emerging that must make a breeder's decisions easier.	1 Litter (8 pups) all Normal Litter screening in this breed is unlikely to reveal a lot, as none of the likely conditions are typically early in onset.
Schnauzer - Giant	0 (1)	0 (1)						
Schnauzer - Standard	0 (0)							
Schnauzer -Miniature **	118 (153)	103 (143)	congenital hereditary cataract (CHC) 2	lens cataract (nuclear) 3 lens cataract (PPSC) 1		distichiasis 9 corneal lipid dystrophy (bilat.) 2	118 adults is 11% of annual registrations (1069 in 2012). It is clear the majority of breeders are committed to a policy of closely monitoring both adults & litters, so the information being gleaned State by State is probably more meaningful than in any other of our popular breeds.	28 Litters (108 pups) all reported as unaffected at the age range of 8-12 weeks
Shiba inu	3 (2)	3 (2)						
Siberian Husky **	54 (62) gonioscopy done on 42	41 (45)	goniodysgenesis 10 ICA open >50% 3 (2 of these were blue eyes and are reported as 'narrow angle') ICA open <50% 7 normal on gonioscopy 32	hereditary cataract (PPSC) 1 peri-nuclear cataract 1		distichiasis (multiple) 1 corneal lipid dystrophy (bilat.) 2	54 adults is 11% of annual registrations (487 in 2012 and rising) so a very good sample enhanced by a high uptake of once-only gonioscopy testing, where the results are also providing guidance.	
Saint Bernard	0 (0)							
Tibetan Mastiff	0 (0)							
Utility Group Totals	269 (288)	229 (240)						

ACES Report Year: July 2013- June 2014		Group: 7 Non Sporting					Current report date 30 June 2014	
Breed	Total to date	Unaffected	Schedule (Congenital)	Schedule (Later Onset)	Non Schedule (Congenital)	Non Schedule (Later Onset)	Breed Notes	Litter Screening summarised
Boston Terrier ³	16 (0)	11 (0)		hereditary cataract ⁵		corneal lipid dystrophy (bilat.) ¹	This increase is good to see, but a few more each year would add to our breed data (especially adnexal & lid function)	
British Bulldog ¹	0 (4)	0 (3)					Surprisingly, registrations have climbed again in recent years, up to 1119 in 2013.	
Canaan Dog	0 (0)							
Chow Chow ³	0 (0)						206 new ANKC registrations in 2013. Lid apposition and other adnexal defects are not uncommon clinically, so some level of voluntary screening seems indicated.	
Dalmatian	0 (1)	0 (1)						
Eurasier	0 (0)							
French Bulldog ²	0 (0)						This breed is seeing an explosion in new registrations (1542 in 2013). Their eyes appear to be at risk due to their relative size and exposure to surface drying etc.	
German Spitz (Klein)	0 (0)							
German Spitz (Mittel)	0 (0)							
Great Dane	1 (0)	1 (0)						
Japanese Spitz	1 (0)	1 (0)			retinal vessels unusually fine ¹ (fundus shows normal reflectivity)			
Keeshond	5 (5)	5 (5)					5 adults is 4.9% of annual registrations	
Lhasa Apso ³	5 (0)	4 (0)				unilateral KCS + pigmentary keratitis ¹ (with evidence of repeated ulceration)	5 adults is 3.8% of annual registrations	
Poodle - Standard	5 (11)	5 (10)				lens hyaloid remnants ¹	5 adults is 1.3% of annual registrations	
Poodle - Miniature ¹	0 (3)	0 (1)					Optic N hypoplasia is a recognised risk	
Poodle - Toy ¹	10 (6)	9 (3)				distichiasis (multiple) ¹	Optic N hypoplasia is a recognised risk	1 Litter (1 pup) 2-3 PPMs (I-I) only
Schipperke	0							
Shar Pei ³	0						306 new ANKC registrations in 2013	
Shih Tzu ³	0						445 new ANKC registrations in 2013	
Tibetan Terrier ²	15 (10)	12 (8)			hyaloid vessel residual fibrosis ²	hereditary cataract (?) ¹ OD dense cortical cataract in a 3 year old	Most breeders of this small sized, full coated breed are already screening for eye defects, other than 2 types of PRA.	
Non Sporting Group Totals	53 (40)	43 (31)						
All Breeds Totals	1713 (1830)	1486 (1538)						
Labradoodle (not ANKC reg.)	0 (4)	0 (4)						

Additional Comments

(see superscripts against some breeds)

(1) For any well-established breed with potentially significant eye comfort or vision- threatening defects, breeders need to be vigilant over the longer term while Breed Clubs can help to promote policies that will ensure normal eye health and function.

(2) For a promising but **as yet un-proven breed** to be able to cope with any future rise in public popularity, thorough eye screening should be undertaken across the active breeding population - **early** in the breed's development rather than too late!

(3) In those breeds where **skull shape, exaggerated eyelid dimensions** and **globe prominence** may predispose to discomfort, 'dry eye' and/or the risk of ulceration, routine ACES screening would provide a basis on which to encourage **moderation** in the desired phenotype, as well as changing the emphasis applied in breed judging.

(*) This breed is being well monitored on the whole. The Breed Clubs are encouraged to continue with effective screening policies, and to monitor future progress State by State.

(**) This breed is being very closely monitored in general terms, but not necessarily to the same degree in every State. To be more meaningful, breeders in States where the bulk of ACES reports are generated should encourage their interstate counterparts to ensure ALL reports are processed through the AVA-ANKC Australian Canine Eye Scheme.