THE KENNEL CLUB
DOG HEALTH

Breed Health and Conservation Plan

English Setter

2019

BHCP/Version 4/Augst 2019

INTRODUCTION

The Kennel Club launched a dynamic new resource for breed clubs and individual breeders – the Breed Health and Conservation Plans (BHCP) project – in September 2016. The purpose of the project is to ensure that all health concerns for a breed are identified through evidence-based criteria, and that breeders are provided with useful information and resources to support them in making balanced breeding decisions that make health a priority.

The Breed Health and Conservation Plans take a holistic view of breed health with consideration to the following issues: known inherited conditions, complex conditions (i.e. those involving many genes and environmental effects such as nutrition or exercise levels, for example hip dysplasia), conformational concerns and population genetics.

Sources of evidence and data have been collated into an evidence base (Section 1 of the BHCP) which gives clear indications of the most significant health conditions in each breed, in terms of prevalence and impact. Once the evidence base document has been produced it is discussed with the relevant Breed Health Coordinator and breed health committee or representatives if applicable. Priorities are agreed and laid out in Section 2. A collaborative action plan for the health of the breed is then agreed and incorporated as Section 3 of the BHCP. This will be monitored and reviewed.

SECTION 1: EVIDENCE BASE

Demographics

The English Setter is a vulnerable native breed, defined as a breed with fewer than 300 new registrations a year. The number of registrations of the breed has hovered around this threshold in recent years as shown in Table 1.

Table 1: Number of English Setters registered per year between 2006 and 2018.

Year	Number of new English Setter registrations	Percentage of English Setters as part of whole KC registered population
2006	450	0.17%
2007	416	0.15%
2008	399	0.15%
2009	295	0.12%
2010	349	0.14%
2011	234	0.10%
2012	314	0.14%
2013	326	0.15%
2014	332	0.15%
2015	289	0.13%
2016	285	0.13%
2017	261	0.11%

2018	290	0.11%

The numbers of English Setters registered by year of birth between 1980 and 2016 are shown in Figure 1. The number of registrations of English Setters has decreased fairly steadily since a peak of more than 1200 in the early 1980s; the trend of registrations over year of birth (1980-2014) was -25.33 per year (with a 95% confidence interval of -31.31 to -19.34), reflecting this decrease.

[Put simply, 95% confidence intervals (C.I.s) indicate that we are 95% confident that the true estimate of a parameter lies between the lower and upper number stated.]

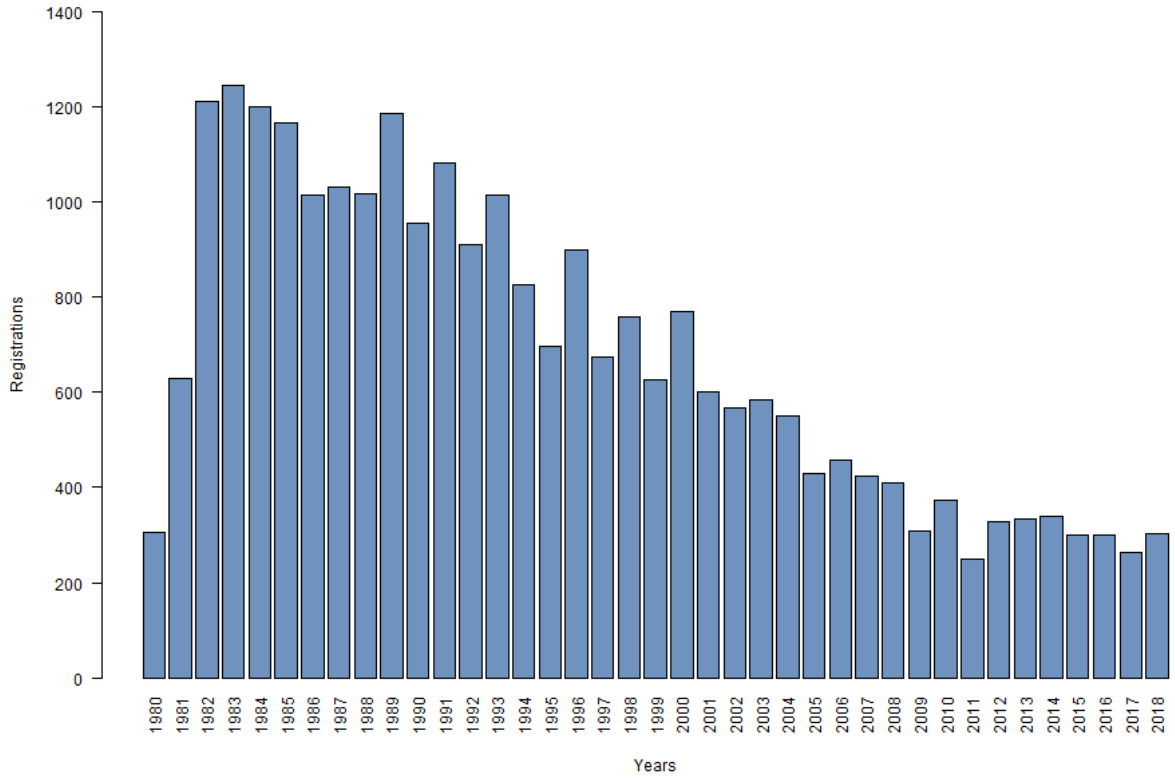

Figure 1: Number of registrations of English Setters per year of birth, 1980 - 2018

BHC annual report

The Breed Health Coordinators' Annual Health Report 2018 stated the following conditions when asked to list and rank the three health and welfare conditions that the breed considers to be currently the most important in the breed:

1. Atopic dermatitis
2. Hypothyroidism
3. Fertility issues
4. Hip dysplasia

When asked to outline what the breed has done in the last year to help tackle the health and welfare concerns the BHC stated: give continuous advice on the treatment of associated symptoms, advise early blood testing for suspected hypothyroidism, advise progesterone blood testing before mating bitches, encouraging all stock to be hip dysplasia scored and only using stock around or below the current breed average.

The conditions listed and actions given in the 2017 Annual Health Report were the following:

1. Atopy
2. Hip dysplasia
3. Hypothyroidism

With this the breed are planning to hold a health survey to assess the prevalence of atopy and hypothyroidism and continue to encourage participation in the British Veterinary Association (BVA)/ Kennel Club (KC) Hip Dysplasia Scheme.

Purebred/pedigree dog health survey results

2004 Morbidity results: Health information was reported for 633 live dogs of which 328 (52%) were healthy and 305 (48%) had at least one reported health condition, this resulted in a total of 571 reported conditions with a median of one condition per dog (min = 1, max = 7). The top disease conditions by organ system/category for the breed were: gastrointestinal (12.6%, 72 of 571 reported conditions), aural (11.4%, 65 of 571 reported conditions), reproductive (10.3%, 59 of 571 reported conditions), immune mediated (10.2%, 58 of 571 reported conditions) and dermatological (9.1%, 52 of 571 reported conditions). The most frequently reported specific conditions were otitis externa (10.7%, 61 of 571 reported conditions), colitis (7%, 40 of 571 reported conditions) and benign neoplasia (6.1%, 35 of 571 reported conditions). The prevalence of atopy in the English Setter in the Purebred Dog Health Survey was 4.3%, with 27 of 633 individuals reported to have been diagnosed with the condition. The prevalence of hypothyroidism meanwhile was 3%, with 19 of 633 English Setters reported to have been diagnosed with the condition.

2004 Mortality results: A total of 384 deaths were reported in the breed. The median age of death was 11 years and 7 months (min = 10 months, max = 20 years). The top causes of death by organ system/category for the breed were: cancer (32.8%, 126 of 384 reported deaths), old age (18.8%, 72 of 384 reported deaths), combinations (7.8%, 30 of 384 reported deaths), cardiac (7.0%, 27 of 384 reported deaths) and urologic (4.7%, 18 of 384 reported deaths).

2014 Morbidity results: Health information was collected for 183 live English Setters of which 85 (29.0%) had no reported conditions and 98 (71.0%) were

reported to be affected by at least one condition. The most frequently reported specific conditions were lipoma (prevalence 10.93%, proportion 9.52%), otitis externa (prevalence 9.29%, proportion 8.10%), hypersensitivity (allergic) skin disorder (prevalence 8.74%, proportion 7.62%), skin (cutaneous) cyst (prevalence 8.74%, proportion 7.62%) and umbilical hernia (prevalence 4.37%, proportion 3.81%).

2014 Mortality results: A total of 38 deaths were reported for the breed. The range of age at death for English Setters was five to 15 years. The most frequently reported causes of death were old age (proportion 15.79%), cancer – unspecified (proportion 13.16%), bone tumour (proportion 7.89%), kidney failure (proportion 7.89%) and lung tumour (proportion 7.89%).

VetCompass results

No VetCompass data relating to the English Setter were available at present.

Insurance data

There are some important limitations to consider for insurance data:

- Accuracy of diagnosis varies between disorders depending on the ease of clinical diagnosis, clinical acumen of the veterinarian and facilities available at the veterinary practice.
- Younger animals tend to be overrepresented in the UK insured population.
- Only clinical events that are not excluded and where the cost exceeds the deductible excess are included (O'Neill et al, 2014)

However, insurance databases are too useful a resource to ignore as they fill certain gaps left by other types of research; in particular they can highlight common, expensive and severe conditions, especially in breeds of small population sizes, that may not be evident from teaching hospital caseloads (Egenvall et al, 2009).

UK Agria data

Full policies are available to dogs of any age. Free policies are available to breeders of Kennel Club registered puppies and cover starts from the time the puppy is collected by the new owner; cover under free policies lasts for five weeks from this time. It is possible that one dog could have more than one settlement for a condition within the 12-month period shown.

Conditions by number of settlements, for authorised claims where treatments started between July 2017 and June 2018, are shown in Table 2 below. 'Benefit other than vet fees' refers most commonly to a claim for death of the dog but can also cover travel costs, boarding fees and advertising for lost dogs. There were a low number of claims for any specific disorder.

Table 2: Top 10 conditions and number of settlements for each condition between 1st August 2017 and 31st July 2018 for English Setters insured on full policies with Agria UK

Condition	Number of settlements
Atopy finding	4
Intestinal rupture (unspecified)	2
Gastrointestinal disorder finding	2
Hypersensitivity (allergic) skin disorder (unspecified)	2
Wound - laceration	1
Otitis media	1
Osteoarthritis (osteoarthrosis degenerative joint disease (DJD))(unspecified)	1
Foreign body - gastric (stomach)	1
Weight loss (Presenting complaint) finding	1
Colitis - chronic	1

Swedish Agria data

Swedish morbidity and mortality insurance data were available from Agria for the English Setter. Reported rates are based on dog-years-at-risk (DYAR) which take into account the actual time each dog was insured during the period (2006-2011). The number of DYAR for the English Setter in Sweden during this period was between 500 and 1000.

Swedish Agria insurance morbidity data

The most common specific causes of veterinary care episodes (VCEs) for Agria-insured English Setters in Sweden between 2006 and 2011 are shown in Figure 2. The top five specific causes of VCEs were skin tumours, vomiting/diarrhoea/gastroenteritis, mammary tumours, otitis and skin trauma.

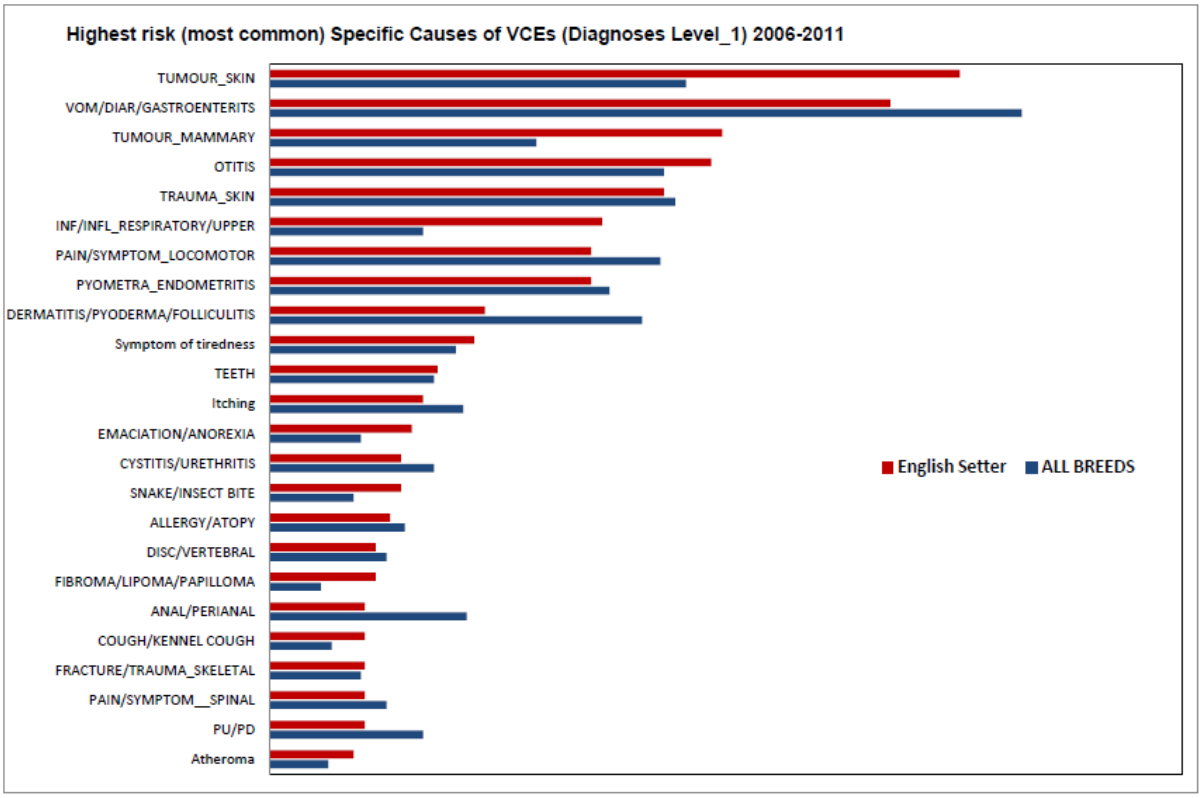

Figure 2: The most common specific causes of VCEs for the English Setter compared to all breeds in Sweden between 2006 and 2011, from Swedish Agria insurance data.

When relative risk of specific causes of VCEs was compared for the English Setter to all breeds, a couple of interesting findings were reported. The specific causes of VCEs ordered by relative risk are shown in Figure3. In this analysis, the top five specific causes of VCEs ordered by relative risk were degenerative disease or dysplasia of the shoulder, OCD, diabetes mellitus, unspecific/various signs and mastitis.

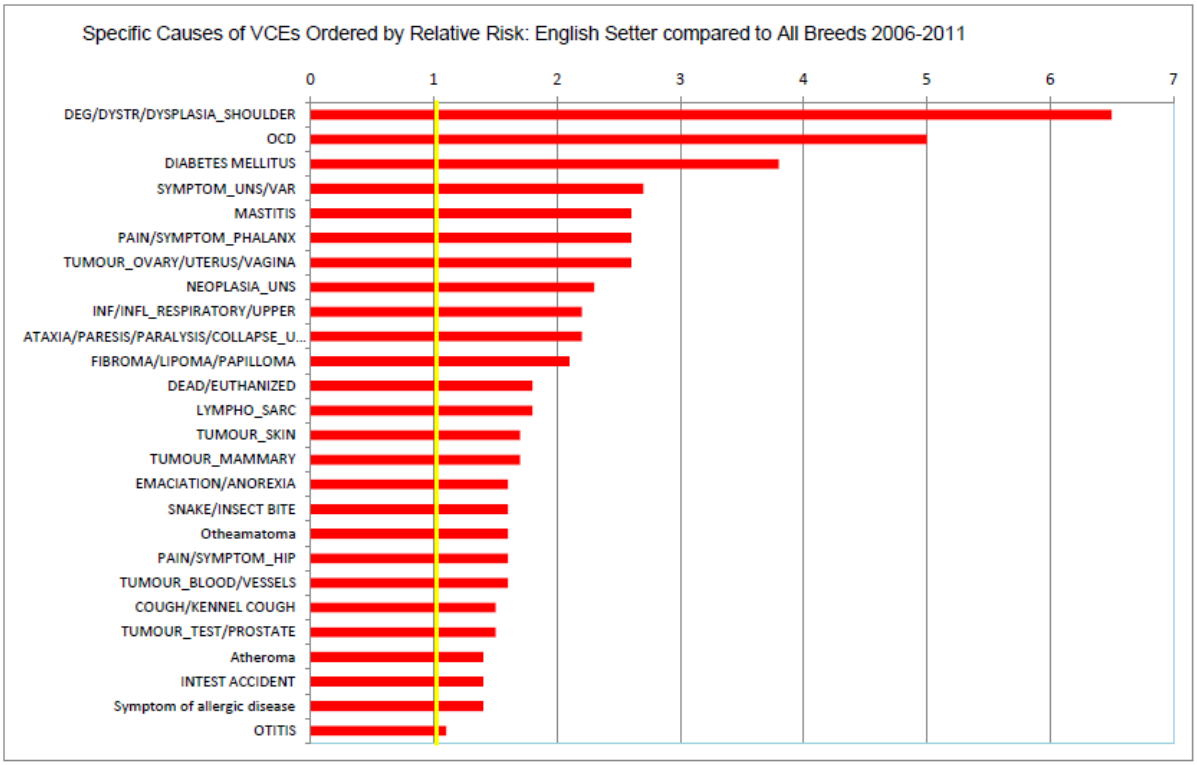

Figure 3: The specific causes of VCEs for the English Setter ordered by relative risk compared to all breeds in Sweden between 2006 and 2011, from Swedish Agria insurance data.

Swedish Agria insurance mortality data

Median age at death for English Setters from Swedish Agria insurance data was 7.4 years for males and 6.85 years for females. Reported deaths were based on between 200 and 500 DYAR and should therefore be interpreted with caution. The most common causes of death were being hit by a car/train/vehicle and vomiting/diarrhoea/gastroenteritis.

Breed-specific health surveys

Surveys into litter size (in 2012) and skin conditions (in 1993) have been undertaken in the breed. The study of litter size found that more inbred males tended to produce smaller litters and similarly that litters with a higher coefficient of inbreeding tended to be smaller.

Visual health check reports/clinical reports/judges' health monitoring

As a category one breed under Breed Watch (indicating there are no points of concern), judges' health monitoring forms are not mandatory.

Breed Club health activities

The breed has a health committee/group/council, an active Breed Health Coordinator and a dedicated health section on the English Setter Association's website.

Assured Breeder Scheme

Currently within the Kennel Club (KC)'s Assured Breeders Scheme there are the following health tests that Assured breeders are required to complete:

- British Veterinary Association (BVA)/Kennel Club (KC) Hip Dysplasia Scheme

There are no recommendations for the breed currently.

Breed Club breeding recommendations

There are currently no Breed Club breeding recommendations included as part of the Kennel Club's Assured Breeder Scheme.

DNA test results

As of the 7th August 2019, DNA tests are available and accepted by the Kennel Club for:

- Neuronal ceroid lipofuscinosis (NCL)
- Progressive retinal atropy – rod cone degeneration 4 (PRA – rcd4)

Laboratories that test for these conditions can be found through the following link: https://www.thekennelclub.org.uk/health/for-breeders/dna-testing-simple-inherited-disorders/worldwide-dna-tests/

DNA test results are only recorded for Official Kennel Club DNA Testing Schemes which involve collaboration between the Kennel Club, the breed clubs and the DNA testing facilities.

Canine Health Scheme results and EBVs

All the BVA/KC Health Schemes are open to dogs of any breed, and the results for English Setters which have been presented for assessment under the BVA/KC Elbow Dysplasia Scheme and BVA/KC/International Sheep Dog Society (ISDS) Eye Scheme are also shown below.

HIPS

In total 2905 English Setters have gone through the scheme since it began (as of 30/04/2019), with a 15 year median hip score of 12 (range 1-92). The five year median hip score was 11 suggesting that perhaps slight progress is being made.

Hip score categories received by English Setters which participated in the BVA/KC Hip Dysplasia Scheme between 1990 and 2016 are shown in five year blocks (which can be considered to approximate to a generation) in Figure 4 below. The categories correspond to those assigned under the FCI (Europe)'s hip grading scheme; for one hip, a 'normal' hip scores 0-3, borderline scores 4-8, mild HD scores 9-18, moderate HD scores 19-30 and severe HD represents a score greater than 30. Further information on these categories can be found here: https://www.bva.co.uk/uploadedFiles/Content/Canine_Health_Schemes/chs-comparison-of-hd-schemes.pdf. Over this time period there appears to be a definite reduction in the proportion of English Setters with mild to severe hip dysplasia and an increase in those with borderline and normal scores.

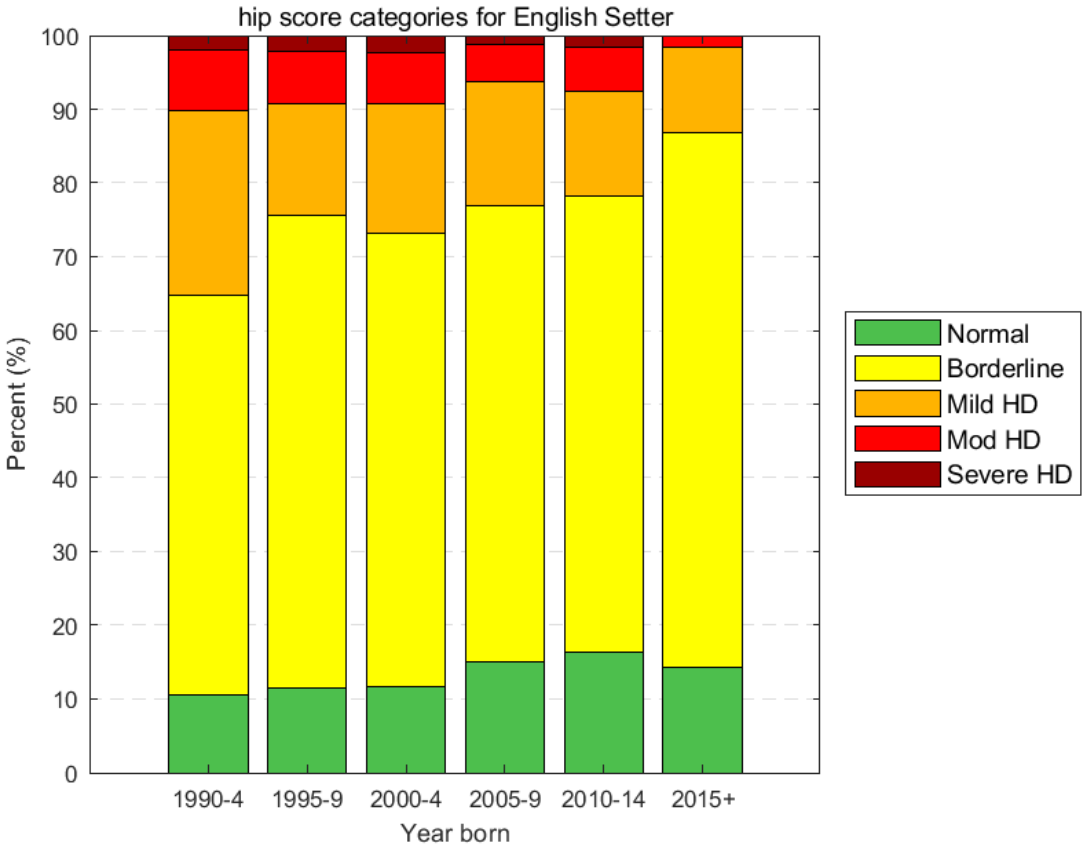

Figure 4 – Hip score categories for English Setters which participated in the BVA/KC Hip Dysplasia Scheme between 1990 and 2017, in 5-year blocks.

Estimated Breeding Values (EBVs) are available for hip scores in this breed. Figure 5 shows the five year rolling trend in EBVs by year of birth in the English Setter. It can clearly be seen that EBVs have generally decreased since 1990. This indicates an improving (lowering) genetic risk of hip dysplasia as determined by the BVA/KC hip score, most likely as a result of selection.

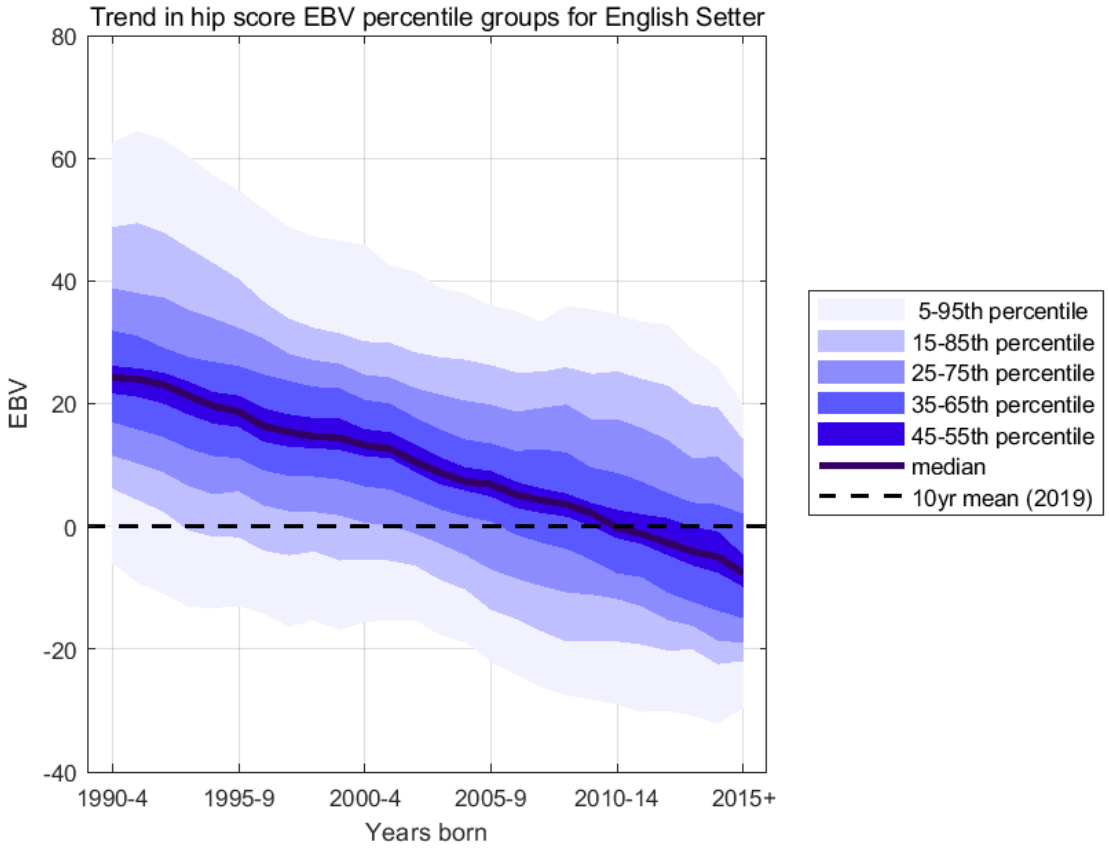

Figure 5: Trend in hip score EBV, with percentile groups, for the English Setter for years of birth since 1990.

The histograms below (Figure 6) gives the EBV values for English Setters for all dogs and also those born after the year 2000. It appears that the trend has improved in recent years, with the higher scores beginning to curtail and a large proportion of EBVs moving towards the breed average.

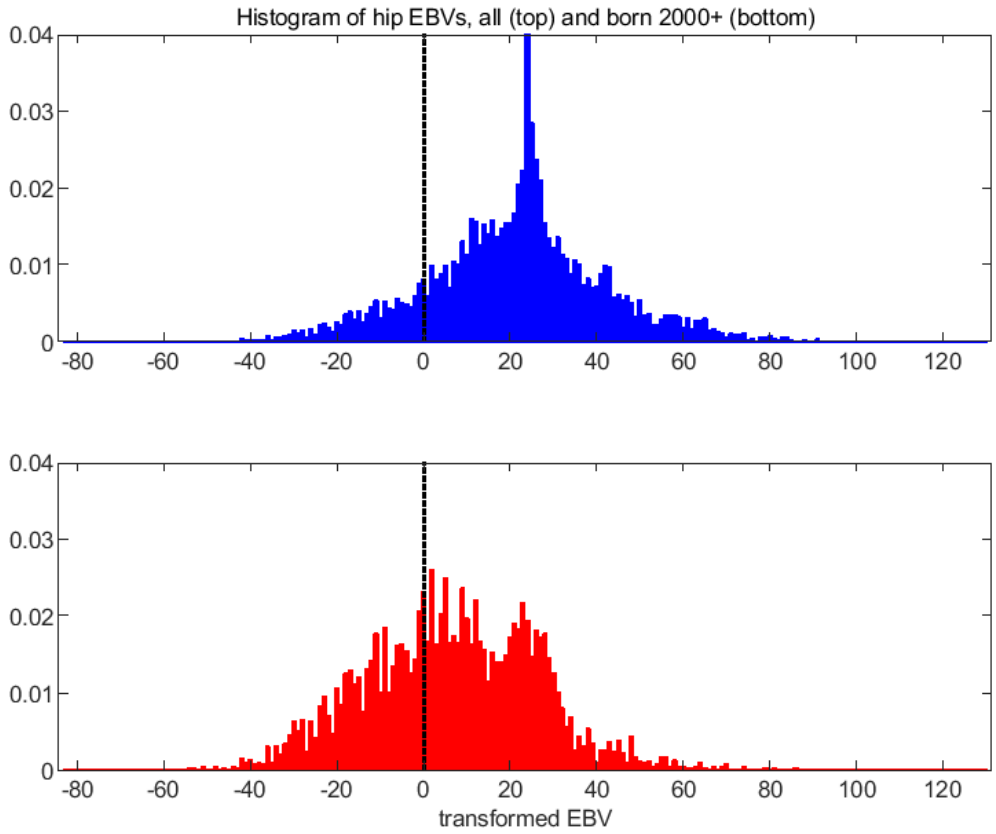

Figure 6: Hip EBV distribution for the English Setter for all years of birth (top graph) and since 2000 (bottom graph).

ELBOWS

Only six English Setters have been elbow scored as part of the BVA/KC Elbow Dysplasia Scheme since the scheme launched in 1998; the scores received are shown in Table 3 below.

Table 3: Elbow scores and number of dogs receiving those scores since 1998 for the English Setter.

Elbow score	Number of dogs
0	4
1	1
2	1
3	0

EYES

The English Setter is not currently on Schedule A or B for any condition under the BVA/KC/International Sheep Dog Society (ISDS) Eye Scheme. Schedule A lists the

known inherited eye conditions in the breeds where there is enough scientific information to show that the condition is inherited in the breed, often including the actual mode of inheritance and in some cases even a DNA test. Schedule B lists those breeds in which the conditions are, at this stage, only suspected of being inherited. However, the BVA still records the results of dogs of other breeds which have participated in the scheme. The number of English Setters which have been examined under the scheme is very low – four were examined in 2009 and one in 2013. The certificates issued all stated "all clear" or "clear for hereditary cataract and progressive retinal atrophy".

Other ocular conditions: Literature produced by the American College of Veterinary Ophthalmologists (ACVO) for breed ocular predispositions reported the English Setter as being susceptible to distichiasis, corneal dystrophy, persistent pupillary membranes, cataract, generalised retinal atrophy, rcd4 progressive retinal atrophy, retinal dysplasia and ceroid lipofuscinosis (Genetics Committee of the American College of Veterinary Ophthalmologists, 2018).

Throughout 2010 to 2018, 248 dogs of the breed were examined for ocular disorders. The resultant prevalence data is shown in Table 4 below, along with that from previous periods. Overall, 84.7% (210 of 248 dogs examined) of English Setters examined had normal eyes unaffected by any condition in 2015. However, it is important to note that this data is based on a small sample and from dogs in the United States.

Table 4: ACVO examination results for English Setter, 1991 - 2018

Disease Category/Name	**Percentage of Dogs Affected**		
	1991-1999 (n=522)	**2000-2009** (n=1023)	**2010-2018** (n=248)
Eyelids			
Entropion	0.4%	0.5%	1.6%
Distichiasis	6.9%	2.8%	2.4%
Cornea			
Corneal dystrophy	0.4%	0.9%	1.2%
Uvea			
Persistent pupillary membranes (iris to iris)	0.8%	5.5%	3.2%
Persistent pupillary membranes (iris to cornea)	1.0%	0.2%	0.0%
Lens			
Cataracts (significant)	2.9%	2.3%	6.5%
Vitreous			
Vitreal degeneration	0.2%	0.0%	1.2%
Retina			
Generalised progressive retinal atrophy	0.8%	1.6%	0.8%
Retinal dysplasia (folds)	1.0%	2.8%	1.2%
Retinal dysplasia (geographic)	0.2%	1.4%	0.0%

Adapted from: https://www.ofa.org/diseases/eye-certification/blue-book

Reported caesarean sections

When breeders register a litter of puppies, they are asked to indicate whether the litter was delivered (in whole or in part) by caesarean section. In addition, veterinary surgeons are asked to report caesarean sections they perform on Kennel Club registered bitches. The consent of the Kennel Club registered dog owner releases the veterinary surgeon from the professional obligation to maintain confidentiality (vide the Kennel Club General Code of Ethics (2)).

There are some caveats to the associated data; it is doubtful that all caesarean sections are reported, so the number reported each year may not represent the true proportion of caesarean sections undertaken in each breed. In addition, these data do not indicate whether the caesarean sections were emergency or elective. The number of litters registered per year for the English Setter and the number and percentage of reported caesarean sections in the breed for the past 10 years are shown in Table 5.

Table 5: Number of litters of English Setters registered per year and number of caesarean sections reported per year, 2008 to 2017.

Year	**Number of Litters Registered**	**Number of C-sections**	**Percentage of C-sections**	***Percentage of C-sections out of all KC registered litters (all breeds)***
2008	71	0	0.0%	0.05%
2009	71	0	0.0%	0.15%
2010	59	1	1.69%	0.35%
2011	54	4	7.41%	1.64%
2012	65	9	13.85%	8.69%
2013	57	11	19.30%	9.96%
2014	60	10	16.67%	10.63%
2015	61	14	22.95%	11.68%
2016	57	21	36.84%	13.89%
2017	44	10	22.73%	15.00%
2018	50	9	18.00%	17.21%

Genetic diversity measures

The effective population size is the number of breeding animals in an idealised, hypothetical population that would be expected to show the same rate of loss of genetic diversity (rate of inbreeding) as the population in question; it can be thought of as the size of the 'gene pool' of the breed. In the population analysis undertaken by the Kennel Club in 2015, an estimated effective population size of 29.8 was reported (estimated using the rate of inbreeding over the period 1980-2014). An effective population size of less than 100 (inbreeding rate of 0.50% per generation) leads to a dramatic increase in the rate of loss of genetic diversity in a breed/population increases dramatically (Food & Agriculture Organisation of the United Nations, "Monitoring animal genetic resources and criteria for prioritization of breeds", 1992). An effective population size of below 50 (inbreeding rate of 1.0% per generation) indicates the future of the breed many be considered to be at risk (Food & Agriculture Organisation of the United Nations, "Breeding strategies for sustainable management of animal genetic resources", 2010).

The number of individuals of this breed registered with the Kennel Club is consistently small. The small population size and probable use of migrant animals mean there may be large fluctuations in the rate of inbreeding and effective population size. It should be noted that, while animals imported from overseas may appear completely unrelated, this is not always the case. Often the pedigree available to the Kennel Club is limited in the number of generations, hampering the ability to detect true, albeit distant, relationships.

Annual mean observed inbreeding coefficient (showing loss of genetic diversity) and mean expected inbreeding coefficient (from simulated 'random mating') over the period 1980-2014 are shown in Figure 7. The rate of inbreeding in this breed has remained relatively steady but high over the whole study period. This implies genetic variation is steadily being lost from the population. For full interpretation see Lewis et al, 2015 https://cgejournal.biomedcentral.com/articles/10.1186/s40575-015-0027-4

The current annual breed average inbreeding coefficient is 13.1%. This value is calculated each June and represents the average inbreeding coefficient of all English Setters registered between January and December of the previous

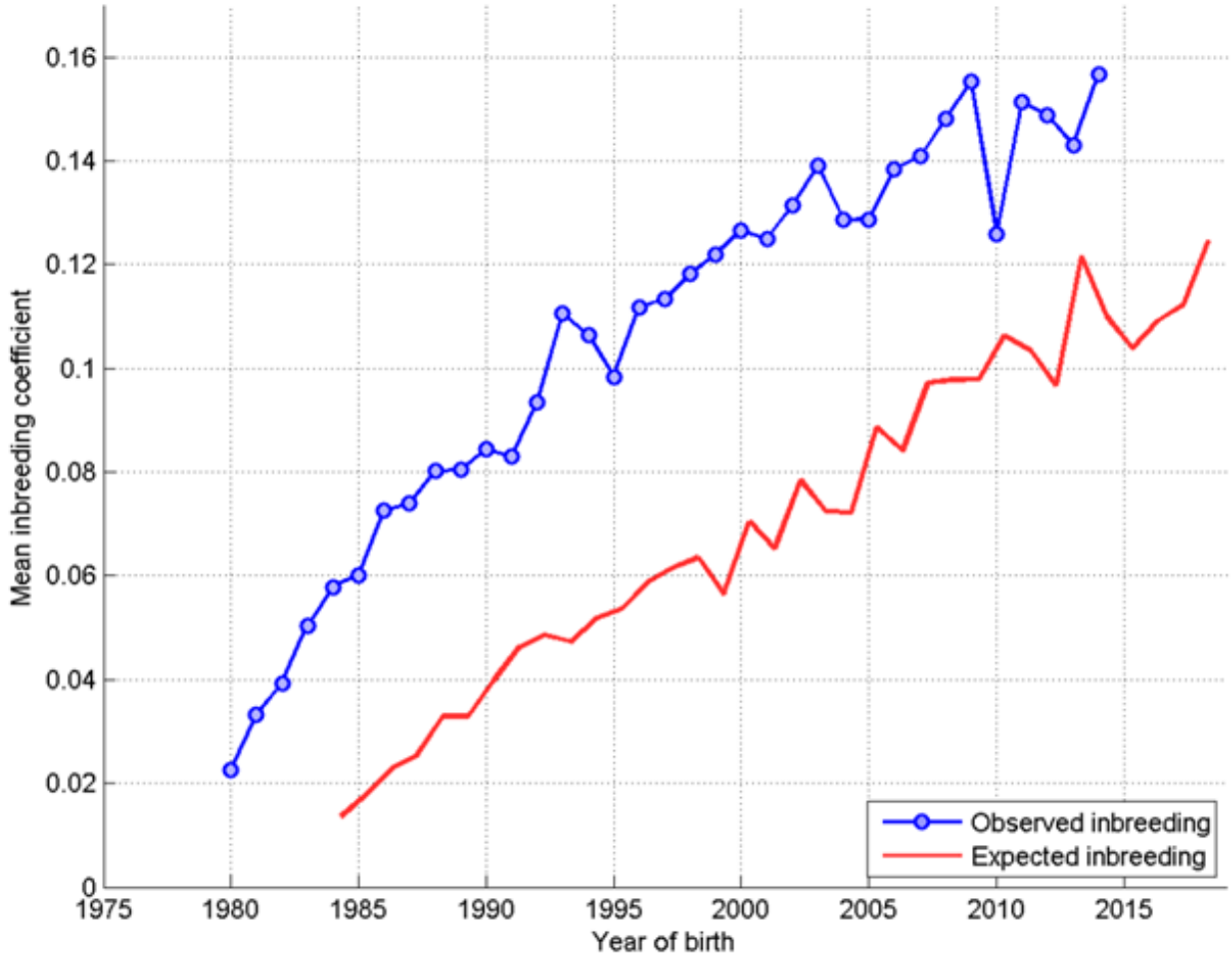

Figure 7: Annual mean observed and expected inbreeding coefficients

Below is a histogram ('tally' distribution) showing the number of progeny per sire and dam over five-year blocks from 1980 to 2014 (Figure 8). A longer 'tail' on the distribution of progeny per sire is indicative of 'popular sires' (sires with a very large number of offspring, which is known to be a major contributor to a high rate of inbreeding). It appears that the extensive use of popular dogs as sires has eased a little (the 'tail' of the blue distribution), however it is clear that popular sires are still prevalent in the breed, and this reduction could be reflective of the overall decrease in registrations for the breed over time.

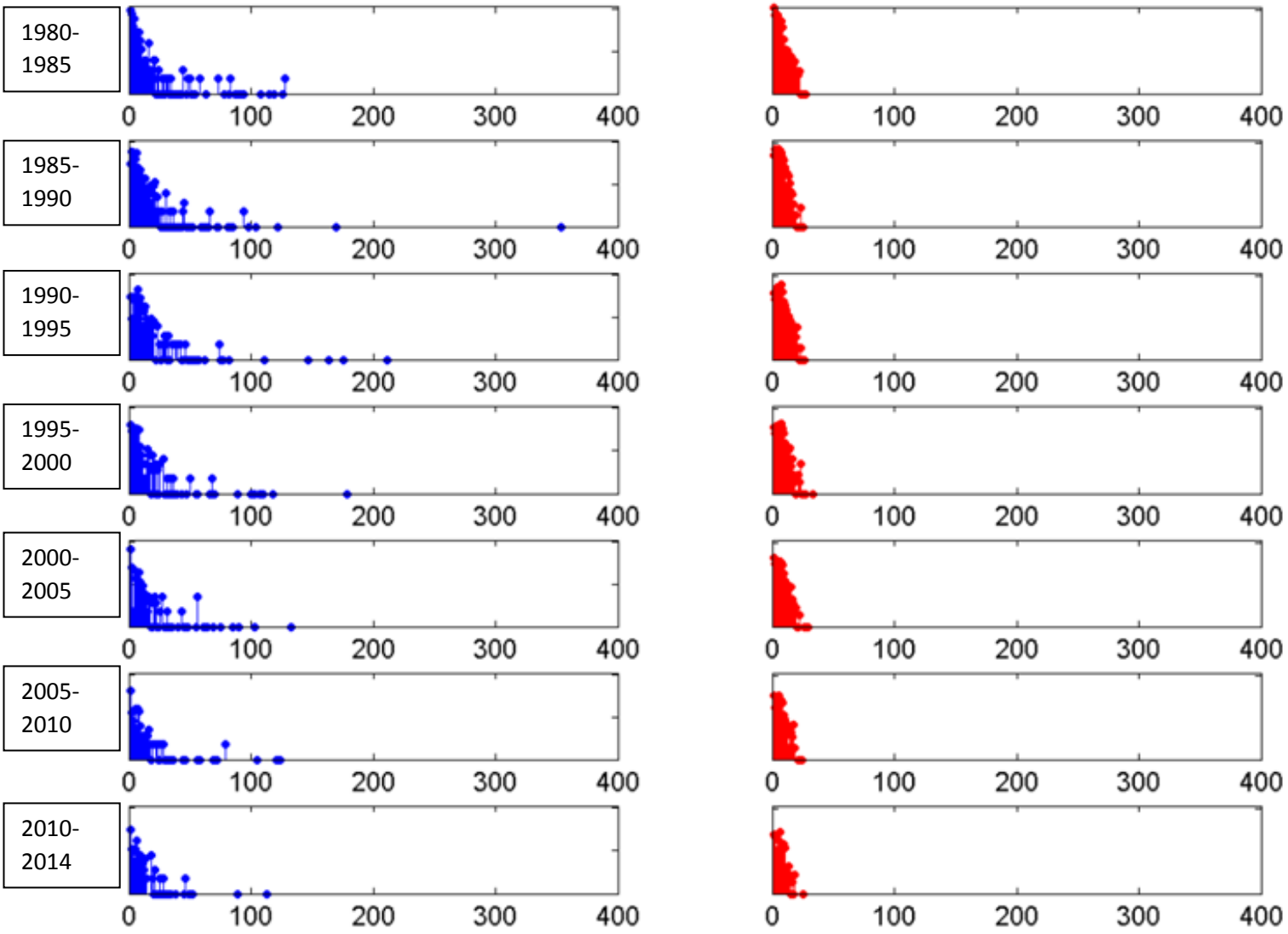

Figure 8: Distribution of progeny per sire (blue) and per dam (red) over five year blocks (1980-4 top, 2010-14 bottom). Vertical axis is a logarithmic scale.

Figure 9 shown below expands on Figure 8, showing the plot of puppies per sire over five year blocks and decline in total registrations, from 1980 to 2018. This illustrates the persistence of popular sires in the breeding population.

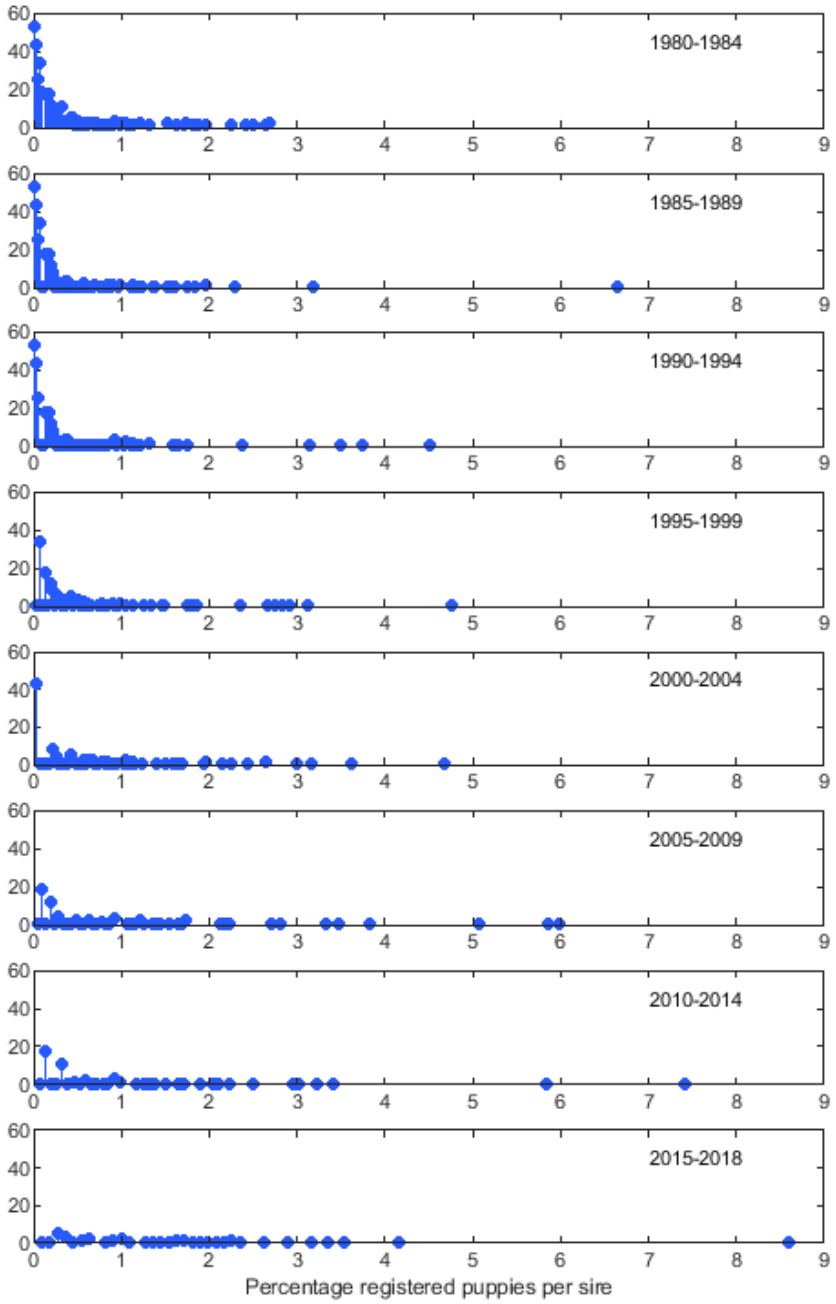

Figure 9: Percentage of progeny per sire (blue) over five year blocks (1980-4 top, 2010-18 bottom).

Current research projects

The English Setter is one of the 75 breeds in the AHT's Give a Dog a Genome project; the health conditions given as a concern for the breed were atopic dermatitis/allergies, hip dysplasia and hypothyroidism (autoimmune thyroiditis). A healthy, older dog of the breed with clear eyes has been sequenced.

The breed have also been involved with a deafness study in collaboration with the AHT.

SECTION 2: PRIORITIES

A meeting was held with the English Setter breed representatives on 21st May, following the discussion of the breed's BHCP in 2018. This meeting was to discuss any further health research or developments in the breed's health that had occurred in the interim and to review the action points and priorities confirmed at the previous meeting.

The updated evidence base was reviewed, starting with inbreeding coefficients (COI). The breed representatives asked if the office had been successful regarding breaking down and calculating the breed COI for both the show and working populations within the breed. Dr Lewis raised the results of the principal component analysis, which evidenced no apparent degree of substructure within the breed. The breed representatives noted that they had thought the subpopulations within the breed had caused an artificial depression of the breeds COI, as it was pointed out that many of the working line matings have a mating COI of 0%, despite the numerically small population. Additionally, the breed representatives highlighted that the show and working lines are definitely distinct and noted that they only know of one mating where the two populations have been crossed. Dr Lewis raised that mating COIs may appear to be 0% due to an absence of pedigree data available from imported dogs and agreed that this would artificially depress the breed COI. The group decided to close the action point due to the absence of apparent substructures within the population upon analysis and noted that the analysis suggests the resultant breed COI would not change significantly.

The group reviewed the hip dysplasia Estimated Breeding Value (EBV) distribution for English Setters for all years of birth since 2000. The group noted the positive improvement year on year, which was also evidenced in the decreased median hip score of 11 from 12 over the last five years. The breed representatives noted that the breed clubs will continue to support the BVA/KC hip scheme and encourage participation and use of EBVs.

The office updated the group on the atopy survey being led by the University of Nottingham, where English Setters represent 0.5% of the collected data. The project researchers have expressed enthusiasm for further investigation into English Setter atopy, however, additional survey data for the breed is required. The group discussed the need for further promotion of the 'Itchy dog survey' and agreed that the office would inform registered English Setter owners of the survey to encourage participation.

The group discussed the current research opportunities for hypothyroidism, with the office noting Dr O'Neill’s intent to undertake a hypothyroid study with VetCompass. The breed representatives raised their recent correspondence with the University of Liverpool regarding previous hypothyroidism research and noted the potential for further investigation. The group agreed that updates would be provided once developments have been made.

With regard to fertility concerns, the breed representatives noted that no further data has been collected to date; however, it was raised that anecdotal evidence suggests a reduction in missed matings. The breed representatives noted that litter sizes continue to be numerically small and with regard to this, the office raised that a report can be compiled from the Kennel Club registration database for further investigation.

With regard to skin irritation/dermatitis being considered as a point of concern for Breed Watch, the breed representatives raised that the breed clubs have decided not to put this point forward at this time. To date there have been no optional judges health reports of skin complaints, and it was noted that this will continue to be monitored and updates will be provided if available. The breed representatives noted their intentions to produce a health survey with emphasis on skin complaints to help improve knowledge on prevalence and emergence of conditions, and it was agreed that the KC would help the breed clubs with the development and distribution of the survey.

The group discussed the breed clubs code of ethics with regard to their recommended breeding age, in that all clubs had agreed 18 months at their annual general meeting. However, the breed raised concerns regarding the accepted age and that they would like it to be increased to 24 months. The group agreed that the breed clubs would submit an application to the ABS for a breeding age recommendation of 24 months. The representatives noted the recent change to their code of ethics regarding mandatory health testing prior to importing dogs, and further their intention to apply for the recognition of these tests in order to facilitate data collection.

The group agreed from the evidence base and their own experience that the priorities for the English Setter remain the same as; hypothyroidism, hip dysplasia, fertility and effective population size.

SECTION 3: ACTION PLAN

- The English Setter breed clubs to continue to support the BVA/KC Hip Dysplasia Scheme and the use of EBVs

- The Kennel Club to monitor research on atopy, and assist in raising awareness of the Itchy Dog Project by the University of Nottingham School of Veterinary Medicine and Science, and to feedback any relevant outcomes to the breed clubs

- The Kennel Club to investigate if any relevant research into hypothyroidism is being undertaken and the breed clubs to update on any progress made with the University of Liverpool

- The English Setter breed clubs to consider collecting data relating to fertility

- The English Setter breed clubs to make a proposal for the ABS regarding recommended age of breeding

- The English Setter breed clubs to consider making a proposal to the ABS for DNA testing for PRA4 and NCL

- The English Setter breed clubs to consider applying for recognition of PRA4 and NCL DNA tests by the Kennel Club, to enable recording of results

- The Kennel Club will review progress with the English Setter breed clubs in May 2020