



THE KENNEL CLUB
DOG HEALTH

Breed Health and Conservation Plan

Pointer

Evidence Base

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Agria 
Pet Insurance

IPFD 
DogWellNet

INTRODUCTION

The Kennel Club launched a 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 raise awareness of current health and welfare concerns in their breed, and support them in making balanced breeding decisions.

The Breed Health and Conservation Plans take a complete 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 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 Co-ordinator and breed health representatives where applicable. Priorities are agreed based on this data and incorporated into a list of actions between the Kennel Club and the breed to tackle these health concerns. These actions are then monitored and reviewed on a regular basis.

DEMOGRAPHICS

The number of Pointers registered by year of birth between 1990 and 2020 are shown in Figure 1. The trend of registrations over year of birth (1990-2020) was -4.26 per year (with a 95% confidence interval of -7.62 to -0.89), reflecting the decrease in the breed's numbers over this time.

[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.]

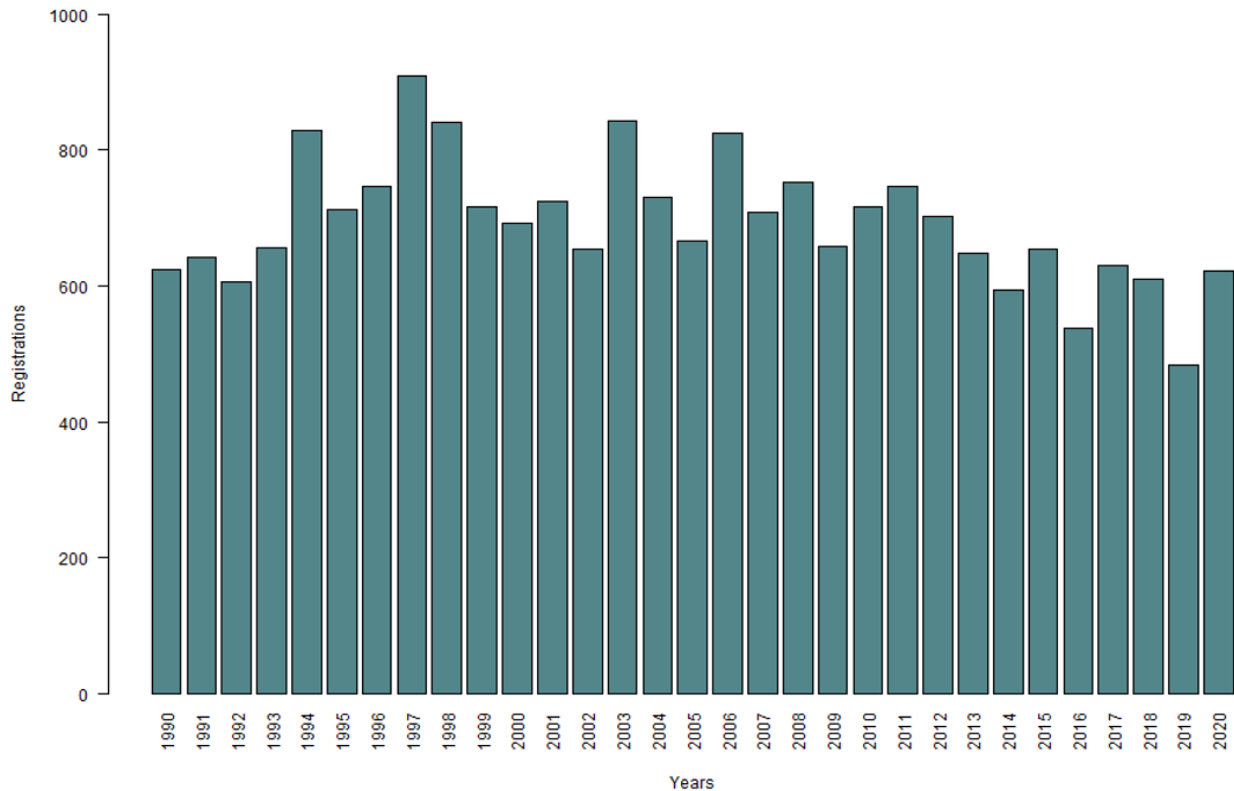


Figure 1: Number of registrations of Pointers per year of birth, 1990 – 2020.

BREED HEALTH CO-ORDINATOR ANNUAL HEALTH REPORT

Breed Health Co-ordinators (BHCs) are volunteers nominated by their breed to act as a vital conduit between the Kennel Club and the breed clubs with all matters relating to health.

The BHC report no current health concerns in the breed's Annual Health Report.

BREED CLUB HEALTH ACTIVITIES

The Pointer has an active BHC and a webpage dedicated to health on the club website: <https://www.thepointerclub.co.uk/breed-health.html>

BREED SPECIFIC HEALTH SURVEYS

Kennel Club Purebred and Pedigree Dog Health Surveys Results

The Kennel Club Purebred and Pedigree Dog Health Surveys were launched in 2004 and 2014 respectively for all of the recognised breeds at the time, to establish common breed-specific and breed-wide conditions.

2004 Morbidity results: Health information was collected for 334 live Pointers of which 214 (64%) were healthy and 121 (36%) had at least one reported health condition. The top categories of diagnosis were reproductive (20.9%, 39 of 187 reported conditions), dermatologic (9.1%, 17 of 187 reported conditions), immune mediated (8.6%, 16 of 187 reported conditions), musculoskeletal (8.6%, 16 of 187 reported conditions) and neurologic (6.4%, 12 of 187 reported conditions). The most frequently reported specific conditions were seizures/ fit/ epilepsy idiopathic (10 cases), false pregnancy (9 cases), kennel cough/ infectious tracheobronchitis (9 cases), and undiagnosed/ unknown (9 cases).

2004 Mortality results: A total of 145 deaths were reported for the Pointer. The median age at death was 12 years and 5 months (min = 6 months, max = 16 years and 5 months). The most frequently reported causes of death were old age (24.1%, 35 of 145), cancer (20.7%, 30 of 145), combinations (7.6%, 11 of 145), neurologic (6.9%, 10 of 145), and other (6.9%, 10 of 145).

2014 Morbidity results: Health information was collected for 241 live Pointers, of which 161 (66.8%) had no reported conditions and 80 (33.2%) were reported to be affected by at least one condition. The most frequently reported conditions were lipoma (8.30% prevalence, 20 cases), hypersensitivity (allergic) skin disorder (3.73% prevalence, 9 cases), skin (cutaneous) cyst (2.49% prevalence, 6 cases), skin lump (2.49% prevalence, 6 cases), food allergy (2.07% prevalence, 5 cases), and skin, ear or coat - unspecified (2.07% prevalence, 5 cases).

2014 Mortality results: A total of 50 deaths were reported for the breed and the median age at death was 11 years. The top reported causes of death were old age (8 cases), cancer – unspecified (4 cases), cardiac heart failure (4 cases), and old age combinations (4 cases).

Breed Health Surveys

The Pointer currently has an open health questionnaire. For more information or to participate, please click on the link below:

- <https://www.surveymonkey.co.uk/r/pointer2021>

LITERATURE REVIEW

The literature review lays out the current scientific knowledge relating to the health of the breed. We have attempted to refer primarily to research which has been published in peer-reviewed scientific journals. We have also incorporated literature that was released relatively recently to try to reflect current publications and research relating to the breed.

Behavioural conditions

Nervousness: There are several reports of nervousness in the breed, with nervous Pointers being used as animal models for human anxiety disorders (Klein et al, 1988; Steinberg et al, 1994; Uhde et al, 1992; Coppens et al, 2005). Klein et al (1988) investigated the hearing status in nervous Pointers and found that 74% (20/27) had bilateral deafness. However, there was no difference in the pathological response to fear-provoking stimuli between deaf dogs and dogs with normal hearing, whereas the pathological response in nervous dogs differed from non-nervous dogs despite hearing status, suggesting that this behaviour is not the result of hearing loss. The authors noted that this behaviour is likely to be genetically associated with hearing loss in the breed, and further breeding experiments on a colony of nervous Pointers also suggested an autosomal recessive mode of inheritance for deafness (Steinberg et al, 1994).

Uhde et al (1992) investigated other factors associated with nervousness in the breed and found that nervous Pointers had significantly greater fearful behaviour, lower body weights, lower weight-to-height ratios, and lower levels of serum insulin-like growth factor I (IGF-I – a hormone involved in growth). Furthermore, the findings indicated that the severity of fearfulness, height, and weight were significantly associated with IGF-I levels.

Musculoskeletal Conditions

Enchondrodystrophy: Whitbread et al (1983) examined four cases of enchondrodystrophy (a form of inherited dwarfism) from a Pointer breeding kennel, in which 16 out of 480 puppies developed the condition. Pedigree analysis suggested an autosomal recessive mode of inheritance for this disease, however no further reports of enchondrodystrophy in the breed could be found to support this.

Neuromuscular conditions

Neurogenic muscular atrophy: A Japanese study examined a litter of Pointer puppies, of which three (two males, one female) suffered from hereditary progressive neurogenic muscular atrophy (Inada et al, 1978). The onset of disease was five months of age, with initial clinical signs being muscle weakness (e.g., trembling limbs whilst standing), which rapidly progressed to an inability to stand in all affected dogs. The familial occurrence indicates a possible genetic link, however no further reports were found to support this.

Respiratory conditions

Primary ciliary dyskinesia (PCD): PCD is characterised by abnormal ciliary (hairlike structured cells) function in the respiratory system, resulting in a build-up of mucus in the airways. Morrison et al (1987) examined a litter of 12-week-old Pointers with PCD presented to the Veterinary Teaching Hospital in Iowa State University. Two of the affected puppies died shortly after the initial examination: one due to parvovirus and the other due to canine distemper. Of the puppies that survived, several cellular defects were identified. The authors noted that whilst the condition is not currently

curable it can be controlled through continual medical monitoring. Further research is needed to determine a mode of inheritance in the breed.

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 insured population
- Only clinical events that are not excluded and where the cost exceeds the deductible excess are included

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.

Swedish Agria Data

Swedish morbidity insurance data were available from Agria for the Pointer. Reported rates are based on dog-years-at-risk (DYAR) which take into account the actual time each dog was insured during the period (2011-2016) e.g. one DYAR is equivalent to one whole year of insurance. The number of DYAR for Pointer in Sweden during this period was between 1,000 and 2,500.

Specific causes for veterinary care episodes

The most common specific causes of veterinary care episodes (VCEs) for Agria-insured Pointer in Sweden between 2011 and 2016 are shown in Figure 2. The top five specific causes of VCEs were skin trauma, pain during locomotion, vomiting/diarrhoea/ gastroenteritis, mammary tumour, and skin tumour.

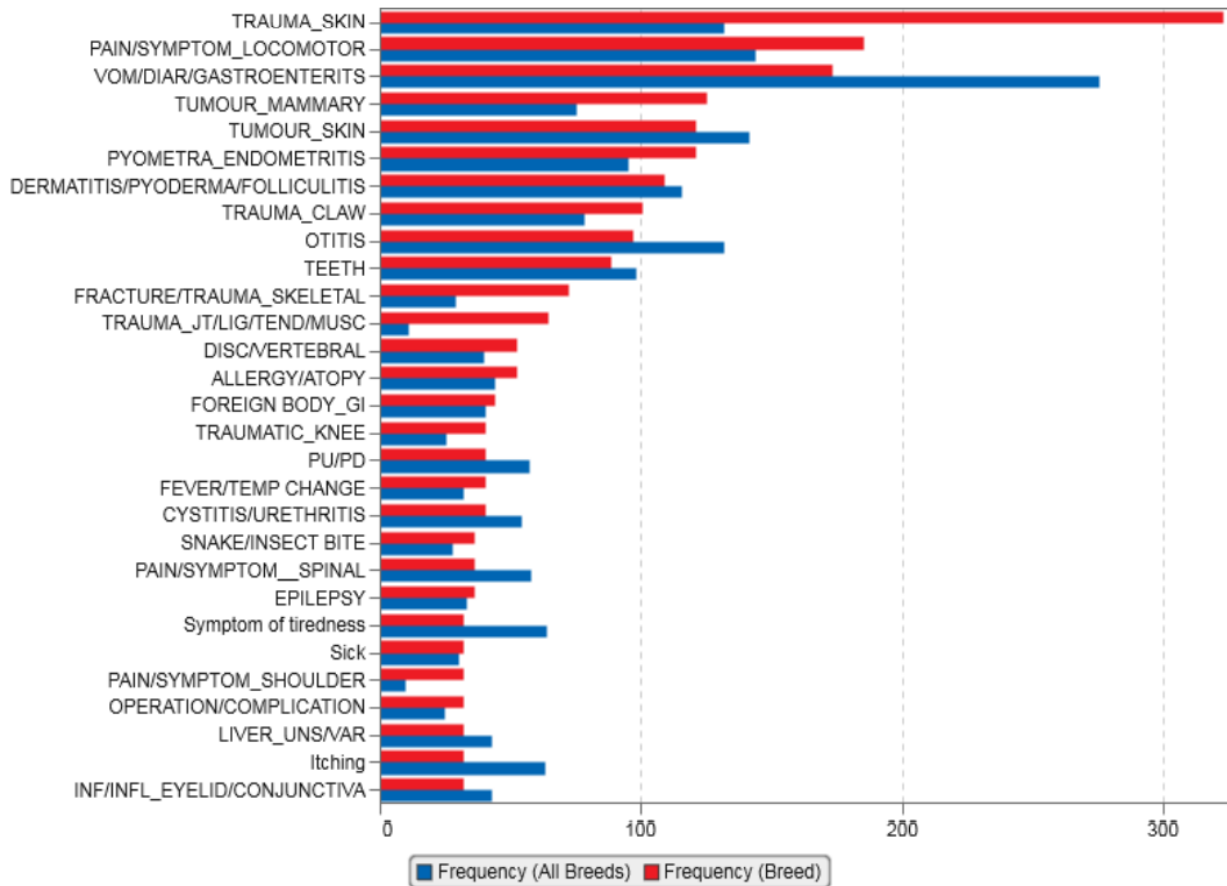


Figure 2: The most common specific causes of VCEs for the Pointer compared to all breeds in Sweden between 2011 and 2016, from Swedish Agria insurance data.

Relative risk for veterinary care episodes

The specific causes of VCEs ordered by relative risk are shown in Figure 3 for the Pointer. In this analysis, the top five specific causes of VCEs ordered by relative risk were ligament/ tendon/ muscle trauma, shoulder pain, skeletal fracture/ trauma, skin trauma, and mammary tumour.

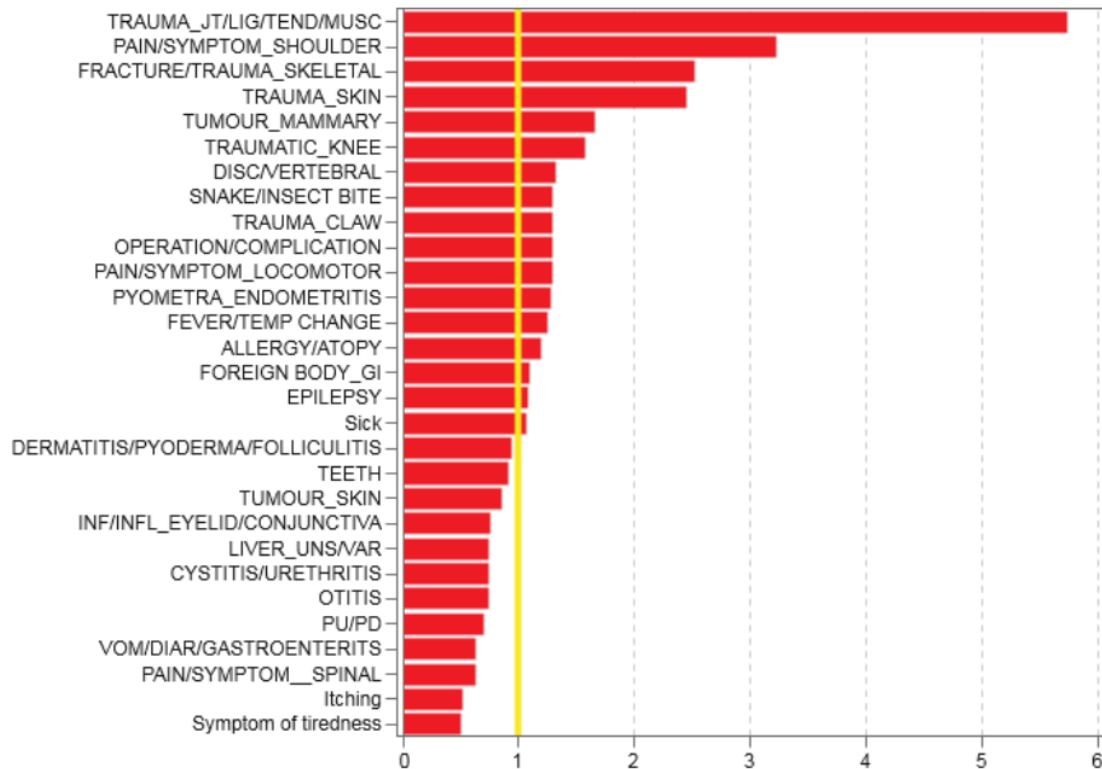


Figure 3: The specific causes of VCEs for the Pointer ordered by relative risk compared to all breeds in Sweden between 2011 and 2016, from Swedish Agria insurance data. The yellow line indicates the baseline risk for all breeds.

BREED WATCH

The Pointer is a category one breed, meaning judges are not required to complete mandatory monitoring forms following an appointment as championship certificate level. To date, two optional reports have been received for the breed, one in 2014 for thin and dirty exhibits, and one in 2016 for overweight dogs. Neither report specified the number of dogs with these concerns.

PERMISSION TO SHOW

As of the 1st January 2020 exhibits for which permission to show (PTS) following surgical intervention has been requested will no longer be published in the Breed Record Supplement and instead will be detailed in BHCPs, and a yearly report will be collated for the BHC. In the past five years, nine reports have been received for the Pointer (excluding neutering or caesarean sections) and these were for the removal of a tooth/ teeth due to trauma (n=3), removal of a tooth/ teeth (n=1), an operation to repair a fractured leg (n=1), removal of cysts (n=1), repair of torn ear(s) (n=1), aural haematoma (n=1), and removal of the right fore carpal pad (n=1).

ASSURED BREEDERS SCHEME

There are currently no recommendations or requirements for the Pointer within the Kennel Club (KC)'s Assured Breeders Scheme (ABS).

BREED CLUB BREEDING RECOMMENDATIONS

There are not currently any Breed Club breeding recommendations listed on the Kennel Club's website for the breed. However, the Pointer Club has a Code of Ethics, which can be found here: <https://www.thepointerclub.co.uk/club-rules--code-of-ethics.html>

DNA TEST RESULTS

There are currently no recognised DNA tests for the Pointer.

Whilst DNA tests may be available for the breed, results from these will not be accepted by the Kennel Club until the test has been formally recognised, the process of which involves collaboration between the breed clubs and the Kennel Club in order to validate the test's accuracy.

CANINE HEALTH SCHEMES

All of the British Veterinary Association (BVA)/Kennel Club (KC) Canine Health Schemes are open to dogs of any breed with a summary given of dogs tested to date below.

HIPS

To date (20/10/2021), 256 Pointers have been hip scored under the BVA/KC Hip Dysplasia Scheme, with a median hip score of 9 (range 0-60).

ELBOWS

To date (20/10/2021), 12 Pointers have been elbow graded under the BVA/KC Elbow Dysplasia Scheme, with just one being grade 1 and the rest being grade 0.

EYES

The breed is not currently on the BVA/KC/ISDS Known Inherited Ocular Disease (KIOD) list (formally Schedule A) for any condition under the BVA/KC/International Sheep Dog Society (ISDS) Eye Scheme.

KIOD 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.

As well as the KIOD list, the BVA record any other conditions affecting a dog at the time of examination, which is incorporated into an annual sightings report. Between 2012 and 2018, 11 Pointers participated in the BVA/KC/ISDS Eye Scheme, with just one condition noted (goniodysgenesis). The reports for 2019 onwards are still pending.

AMERICAN COLLEGE OF VETERINARY OPHTHALMOLOGISTS (ACVO)

Results of examinations through ACVO are shown in Table 1 below for conditions affecting over 1% of the examined population. Between 2015 and 2019, 163 Pointer were examined, of which 82.8% (135 of 163 dogs) were found to be unaffected by any eye condition.

Whilst it is important to note that these data represent dogs in America, the organisation tend to examine a higher number of dogs than that in the UK, and therefore are a valuable source of information.

Table 1: ACVO examination results for Pointer, 1991 – 2019

Disease Category/Name	Percentage of Dogs Affected	
	1991-2014 (n=650)	2015-2019 (n=163)
Cornea		
Corneal dystrophy	0.9%	3.7%
Uvea		
Persistent pupillary membranes, iris to iris	1.7%	0.6%
Lens		
Cataract, suspect not inherited/ significance unknown	2.6%	2.5%
Significant cataracts (summary)	1.2%	4.9%

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.
- These data do not indicate whether the caesarean sections were emergency or elective.
- In all breeds, there was an increase in the number of caesarean sections reported from 2012 onwards, as the Kennel Club publicised the procedure to vets.

The number of litters registered per year for the breed and the number and percentage of reported caesarean sections in the breed for the past 10 years are shown in Table 2.

Table 2: Number of Pointer litters registered per year, and number and percentage of caesarean sections reported per year, 2009 to 2020.

Year	Number of Litters Registered	Number of C-sections	Percentage of C-sections	<i>Percentage of C-sections out of all KC registered litters (all breeds)</i>
2010	123	1	0.81%	0.35%
2011	130	4	3.08%	1.64%
2012	125	13	10.40%	8.69%
2013	115	20	17.39%	9.96%
2014	115	19	16.52%	10.63%
2015	113	24	21.24%	11.68%
2016	90	15	16.67%	13.89%
2017	101	26	25.74%	15.00%
2018	95	14	14.74%	17.21%
2019	82	11	13.41%	15.70%
2020	92	7	7.61%	14.41%

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 **61.5** 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 (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 may be considered to be at risk (Food & Agriculture Organisation of the United Nations, “Breeding strategies for sustainable management of animal genetic resources”, 2010).

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 4. The trend in observed inbreeding increased until 2006, however, since this time, the observed inbreeding coefficient has decreased.

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.

For full interpretation see Lewis et al, 2015

<https://cgjournal.biomedcentral.com/articles/10.1186/s40575-015-0027-4>.

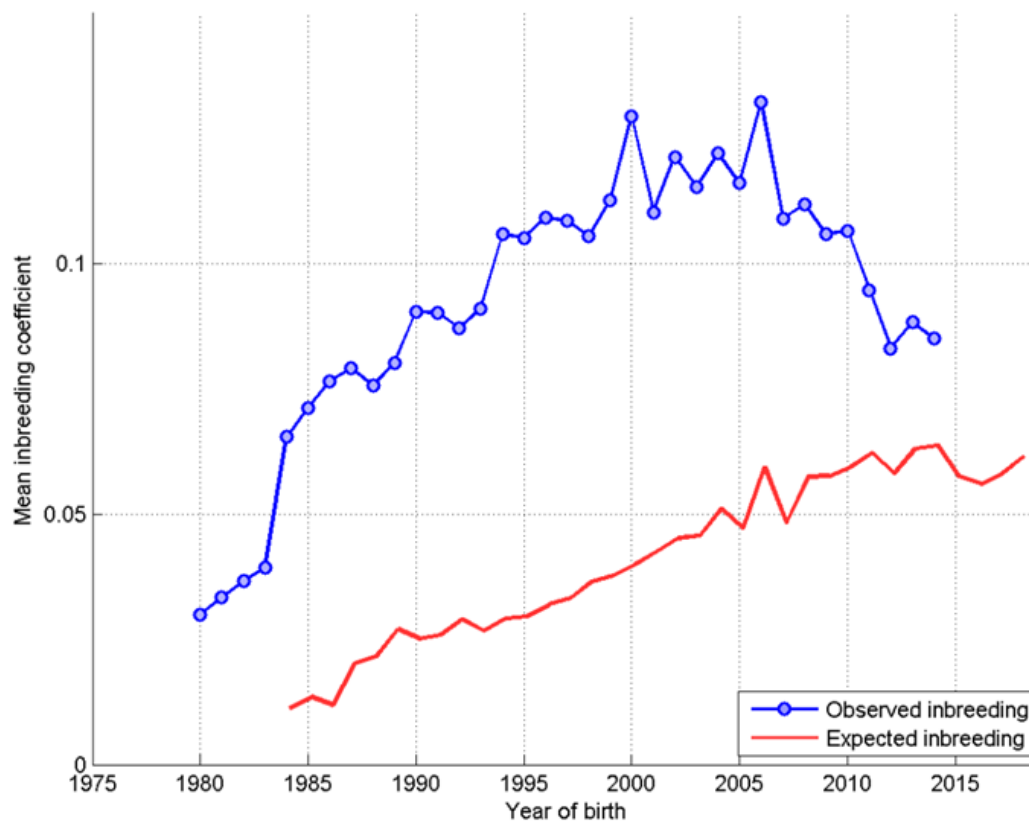


Figure 4: Annual mean observed and expected inbreeding coefficients.

The current annual breed average inbreeding coefficient is **7.5%**.

Below is a histogram ('tally' distribution) of number of progeny per sire and dam over each of seven 5-year blocks (Figure 5). A longer 'tail' on the distribution of progeny per sire is indicative of 'popular sires' (few sires with a very large number of offspring, known to be a major contributor to a high rate of inbreeding). Throughout the period analysed, there is evidence of several popular sires being used, with one sire producing approximately 125 progeny between 2010 and 2014.

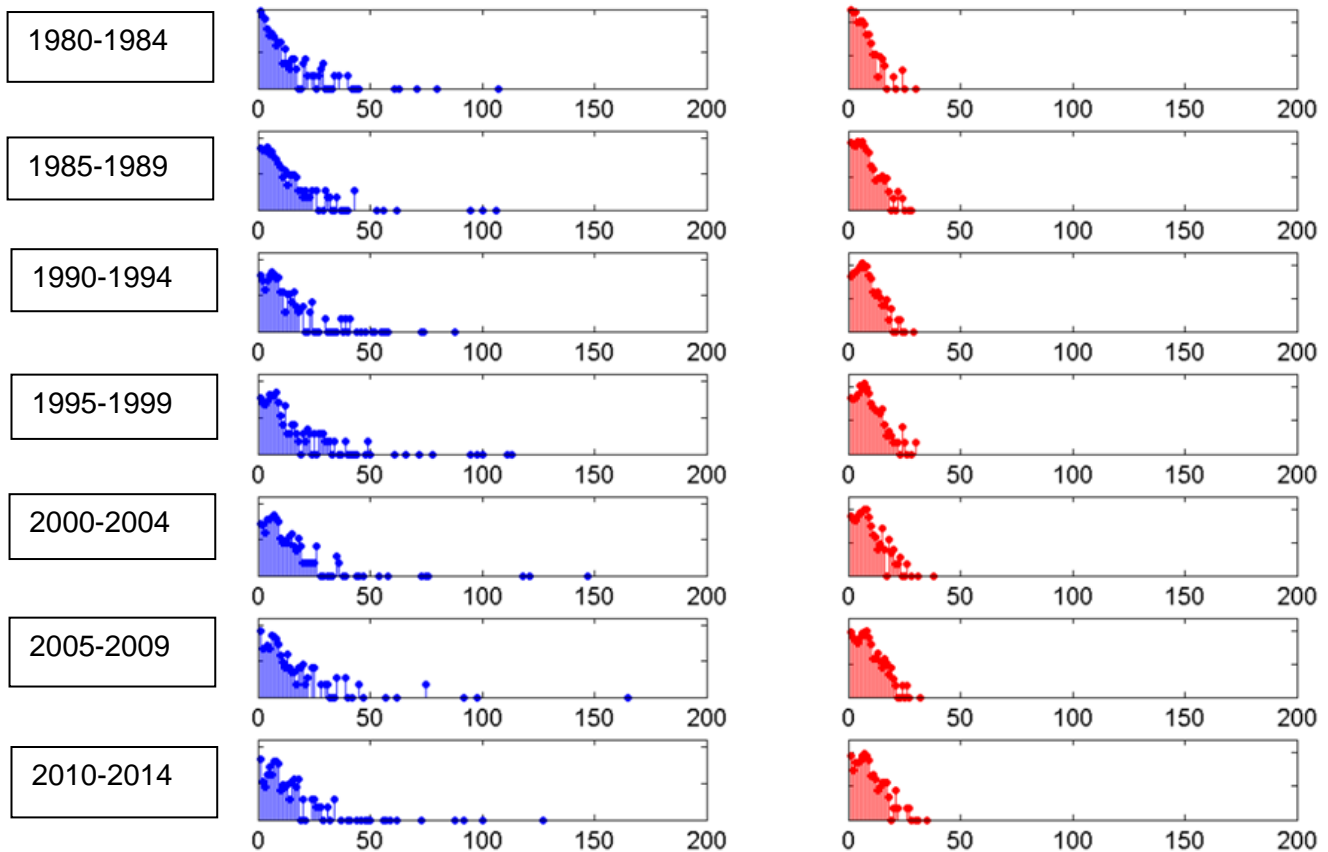


Figure 5: Distribution of the count of progeny per sire (blue) and per dam (red) over 5-year blocks (1980-4 top, 2010-4 bottom). Vertical axis is a logarithmic scale

CURRENT RESEARCH

The breed are not involved in any active research at this time.

PRIORITIES

Correspondence between the breed representatives and the Kennel Club was undertaken in November 2021 to discuss the evidence base of the BHCP and agree the priority issues for the health of the breed. The group agreed from the evidence base that the priorities for the Pointer were:

- Maintaining genetic diversity

ACTION PLAN

Following the correspondence between the Kennel Club and the breed regarding the evidence base of the Breed Health & Conservation Plans, the following actions were agreed to improve the health of the Pointer. Both partners are expected to begin to action these points prior to the next review.

Breed Club actions include:

- The Breed Clubs to continue spreading awareness of available health tests prior to breeding
- The Breed Clubs to report any findings from the Pointer Health Survey 2021 to the Kennel Club
- The Breed Clubs to continue monitoring the breed's health via health surveys/ breeder reports, with The Kennel Club to assist, where needed
- The Breed Clubs to continue to monitor the use of popular sires and raise awareness of the importance of considering genetic diversity when breeding

Kennel Club actions include:

- The Kennel Club to produce a piece on the importance of considering genetic diversity and popular sires when breeding, specifically for numerically small breeds
- The Kennel Club update the population analysis

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