

Australian Terrier Sustainability starts with Global Statistics

by Dr Grace Massey & Vicki McKee

Sustainability has many definitions in modern society. It is often used when discussing the science around global warming or the fight to preserve endangered species. AKC refers to sustainability as any activity that serves to preserve, protect or promote the breed.

Of the 193 recognized AKC canine breeds, the Australian Terrier ranks 136. The top 10 AKC dog breeds actually account for 50% of the AKC registrations. Together, the rarest 50 AKC breeds make up just 1.2% of the registered AKC dogs (Stanely Coren, PHD Psychology Today, 2013). Australian Terriers a vulnerable breed and if we are not vigilant could become extinct along with breeds such as the Alpine Mastiff, English White Terrier, Russian Tracker, Southern Hound, and Tweed Water Spaniel. Breeding decisions today can affect the breed both positively or negatively in the future.

The ATCA Sustainability committee, in its quest to preserve, protect, and promote the Australian Terrier, proposed to start the conversation within the community by gathering global information on the breeds population. The following is the result of our effort. While we did everything we could to account for all Australian Terriers, it is understood that there may be a few of our breed in countries not indicated. It is also acknowledged that a number of our breed, in the United States of America (USA), are not registered with the American Kennel Club (AKC). These Aussies, registered with other kennel clubs in the USA, must be considered lost to our gene pool, as they are not recognized. They are not included in this report.

The first 5 graphs (Figures 1-5) contain Australian Terrier statistics in the USA as recorded by the AKC. Vanessa Skou and Mark Dunn provided data for Figure 1, from the AKC database. Figures 2-5 were part of the AKC Registration Stats report published in February 2019 and provided to the Australian Terrier Club of America (ATCA) by Mark Dunn. Comparisons of statistics for the whole terrier group are from the Terrier Group AKC Registration Stats report published in February 2019. Mark Dunn also provided this report to ATCA.

The next 5 graphs (Figures 6-10) contain the global statistics of Australian Terriers gathered with the help of many friends on FaceBook. The USA numbers are those provided by AKC. Mona Olsson provided Sweden and Finland statistics. Iris Coppee provided Finland, Netherland and Germany statistics. Sheila Stodddart provided United Kingdom (Britain, Scotland, Wales and North Ireland) statistics. Tracey Barry and Michelle Cook provided Australia statistics. Caren Holtby provided Canada statistics. Oksana Martanus provided Russia statistics and Astrid-Merete Linnerud Johansen provided Norway Statistics. Without their help, and dedication to the breed, this report would not have been possible!



AKC Australian Terrier Registration Statistics (1960 – 2018)

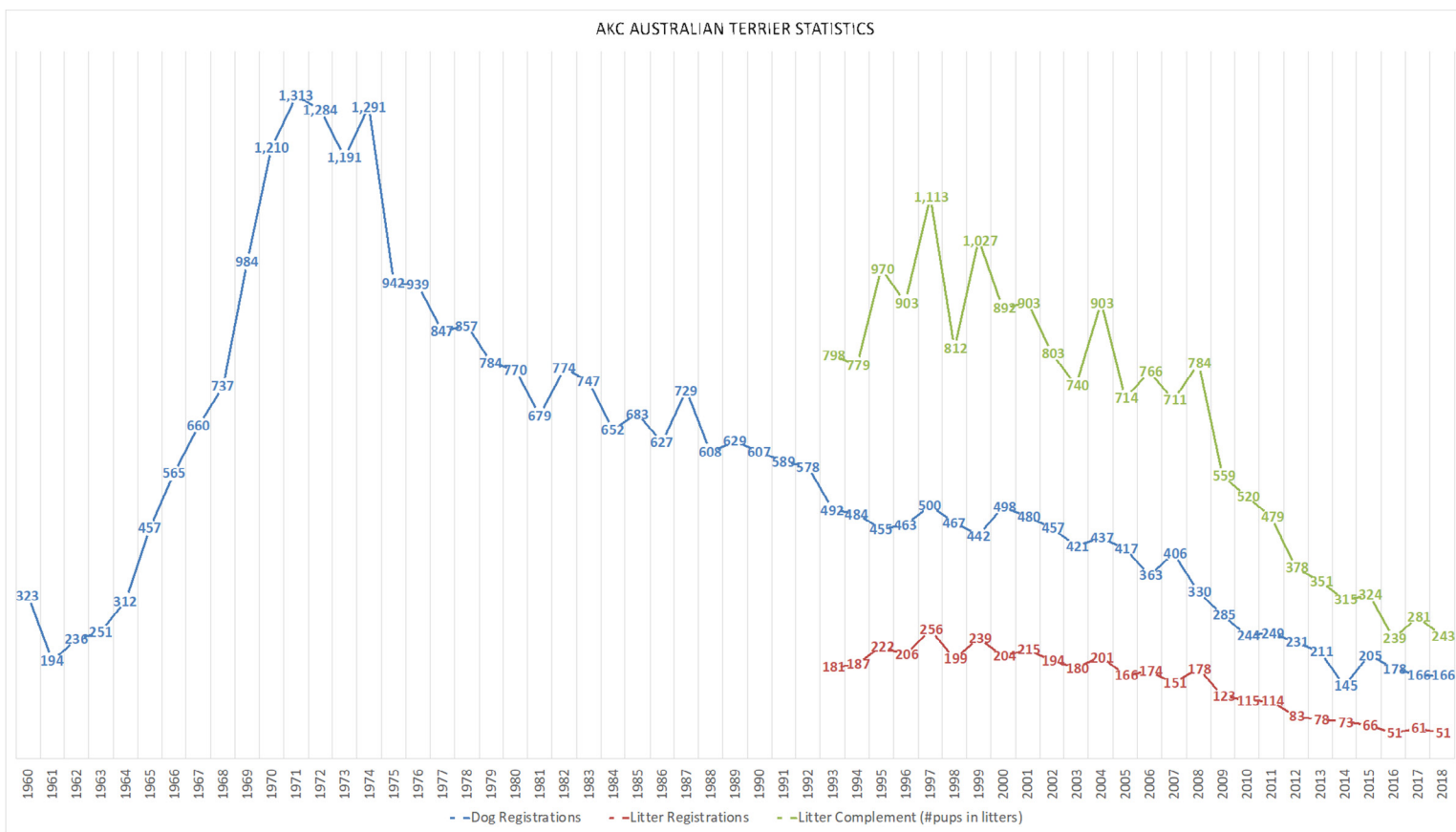


Figure 1. AKC Australian Terrier registration statistics. The blue line is the number of Dogs registered each year, the red line is the number of litters registered each year and the green line is the complement (total number of puppies in litters born each year). The numbers on each line are the actual numbers documented.

The Australian Terrier was first recognized in the USA by AKC in 1960 with 323 Aussies registered that year (blue line in Figure 1). The following year saw approximately a third less Aussies registered. It wasn't until four years later (1964) that over 300 Aussies were again registered in a single year. A steady increase of individuals registered each year was observed from 1961 to 1971, with a sharp increase (over 225 more registered than the previous year) in both 1969 and 1970. A peak of 1,313 Aussies was registered in 1971. Around that peak, there was a 5-year period (1970-1974) where the number of individuals registered was maintained above 1,191. In 1975, a sharp decrease (349 less than the previous year) was observed. Since 1975, there has been a relatively steady decline in the number of Aussies registered each year with only 166 registered in 2018. The lowest number registered in a year occurred in 2014 (only 145) with a rebound of 205 seen the following year.

The red line in Figure 1 indicates the number of litters each year and the green line is the complement, the total number of puppies born in those litters each year. Information prior to 1993 for the number of litters and complement are not readily available because they are stored in an earlier AKC database. During the first 15 years of the available record, 1993-2007, there was an average of 198 litters registered each year with a high of 256 litters in 1997 and a low of 151 litters in 2007. The average complement and individuals registered for 1993-2007 were 856 and 452, respectively. On average of 53% of the complement was registered in that 15 year time period. This means approximately 47% were lost from the gene pool!



Percentage of Complement Registered (2008-2017)

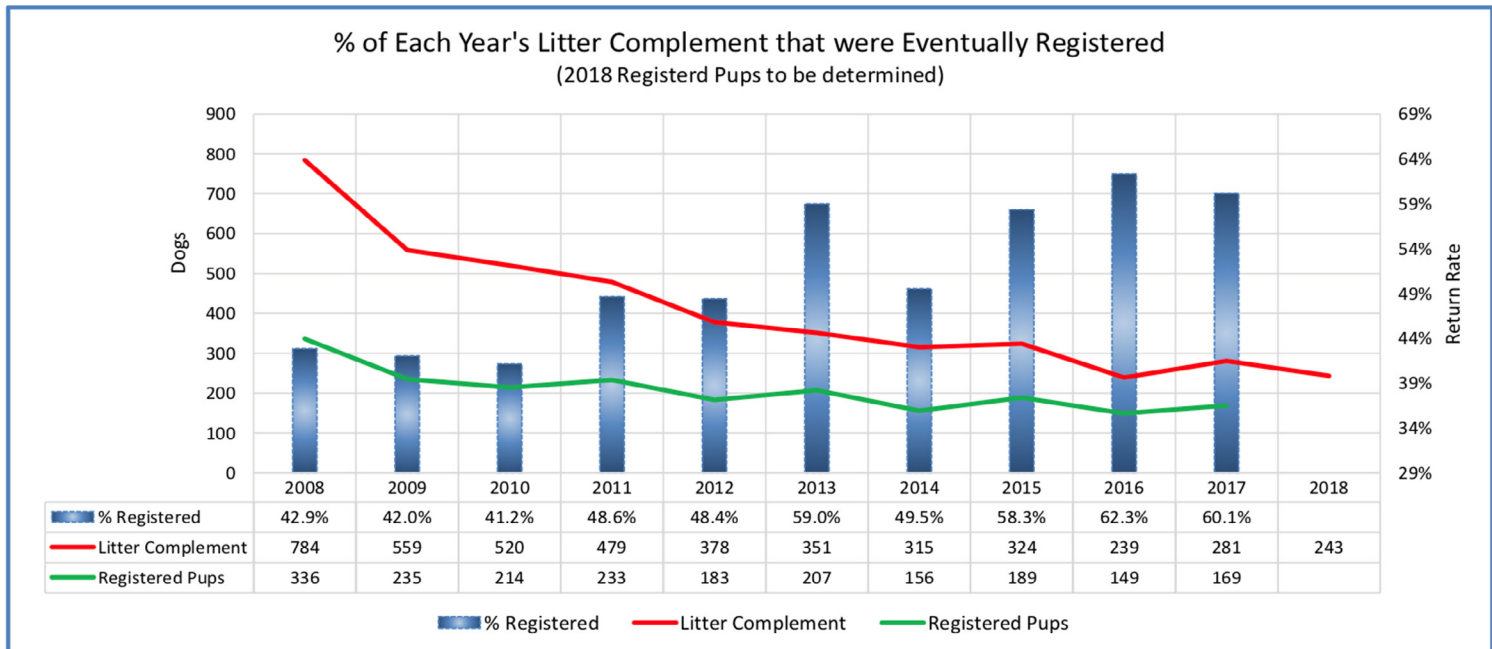


Figure 2. The red line is the litter complement for each year. The green line is the number of puppies from that complement registered. The blue bars is the percentage of complement that was registered (return rate on the second y axis)

Breaking the next 10 years in Figure 1, also shown in Figure 2, into 5-year increments, 2008-2012 and 2013-2017, the average number of litters registered for each 5-year period is 123 and 66, respectively. The 2008-2012 average is a 38% decrease from the previous 15-year average and the 2013-2017 average is a 46% decrease from the previous 5-year average!

The complements, shown in Figure 2, show a similar downward trend getting progressively worse over time. The average complement for 2008-2012 is 544 individuals. This is a 36% decrease from the previous 15-year average of 856 individuals. The average complement for 2013-2017 is 302 individuals, which is a 44% decrease from the previous 5-year average.

The number of registered dogs, shown in Figure 2, also shows a decrease. However, the downward trend actually slows down in the last 5-year period. The average number of registered dogs for 2008-2012 is 268, a 40% decrease from the previous 15-year period. The average number of registered dogs for 2013-2017 is 181. This is only a 32% decrease from the previous year. The average percentage of the complement registered in 2008-2012 was 45%, which is less than the average of 53% for the previous 15 years. However, the average percentage of the complement registered in 2013-2017 was 58%. This is much better than the average complement registered for the same time period of all breed in the AKC terrier group, which was only 41%. This also means that over 21% more of the complement is registered in 2013-2017 than in the previous 5-year period. On average, 42% of the complement was lost from the gene pool. While the numbers are lower, this is an improvement over the 47% lost from the gene pool in the 15-year period prior to 2013.



Unique Individuals Bred Each Year (2008-2018)

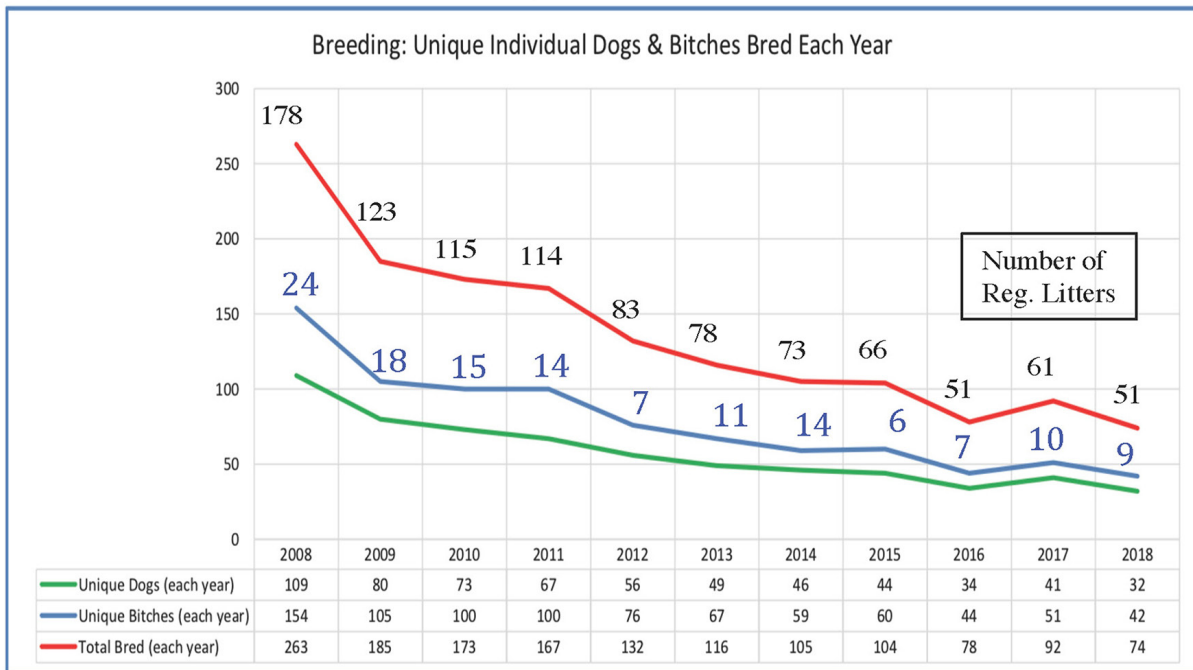


Figure 3. The red line is the total number of individuals bred each year. The black numbers are the number of litters bred that year. The green line is the number of unique dogs bred each year. The blue line is the number of unique bitches bred each year and the blue numbers are the number of bitches bred more than once that year.

At first glance of Figure 3, there is an inclination to believe the breed is not suffering from a popular sire syndrome as the number of unique dogs tracks along with the number of unique bitches. However, there were on average 39% more litters in the 5-year period, 2008-2012, than each single dog used once could produce. It could be that 39% of the dogs were used twice in one year or it could mean that one dog was used a lot more than twice. The only way to determine if a single stud was used repeatedly is to review the studbook. There was an improvement in the number of excess litters as there was only an average of 31% of the dogs used more than once for the 5-year period, 2013-2017.

Of greater concern is the number of unique bitches bred each year in relation to the number of litters produced that year. For the 5-year period, 2008-2012, an average of 12% of the bitches were bred twice in the same year. The next 5-year period, 2013-2017, was worse with an average of 14% of the bitches bred twice in the same year. 2014 was the worst year with 19% of the bitches bred that year producing 2 litters. The ATCA Code of Ethics states a breeder should "breed a bitch no more than two out of three consecutive seasons, or more than twice in eighteen months". However, when using frozen semen it often necessary to breed consecutive heats to increase the hormonal levels conducive for conception.

In addition to the data displayed in this article's figures, the AKC Australian Terrier Registration Stats report shows that we are breeding only 8-13% of each year's complement that are 4 years old or older. Rather than breeding the same bitch a couple times a year, we should be breeding more of the complement. This would provide more genetic diversity and be more helpful in sustaining the breed over time.



Percentage of Each Years Complement in Competition

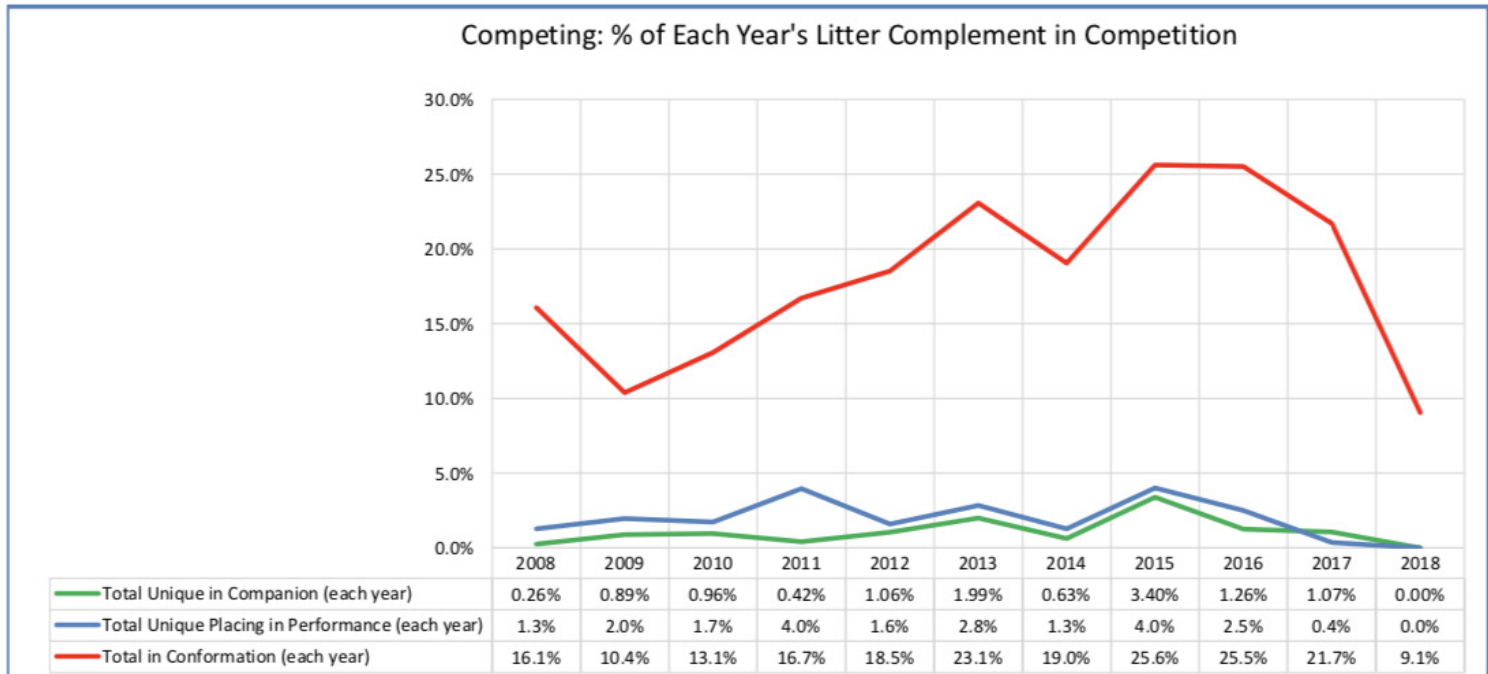


Figure 4. The red line is the percentage of each year's complement competing in Conformation. The blue line is the percentage of each year's complement placing at least once in Performance. The green line is the percentage of each year's complement shown at least once in Companion events.

In the 5-year period, 2008-2012, as seen in Figure 4, an average of 15% of each year's complement has been shown in Conformation, 2% have placed at least once in a Performance event and 0.7% has competed in at least one Companion event. For the next 5-year period, 2013-2017, that increased to 23% in Conformation, 2.4% in Performance events (excluding 2017 where they would be too young to compete at the time of the report) and 1.7% in Companion events.

These are significantly higher than the previous 5-year period and are markedly higher than the average percentages of complements of all the terrier's breeds in the terrier group during the same time period, as documented in the Terrier Group AKC Registration Stats report, which were 6.3%, 0.5% and 0.6% for Conformation, Performance and Companion, respectively.



Total Number of Unique Aussies Competing in AKC Sports each Year (2008-2018)

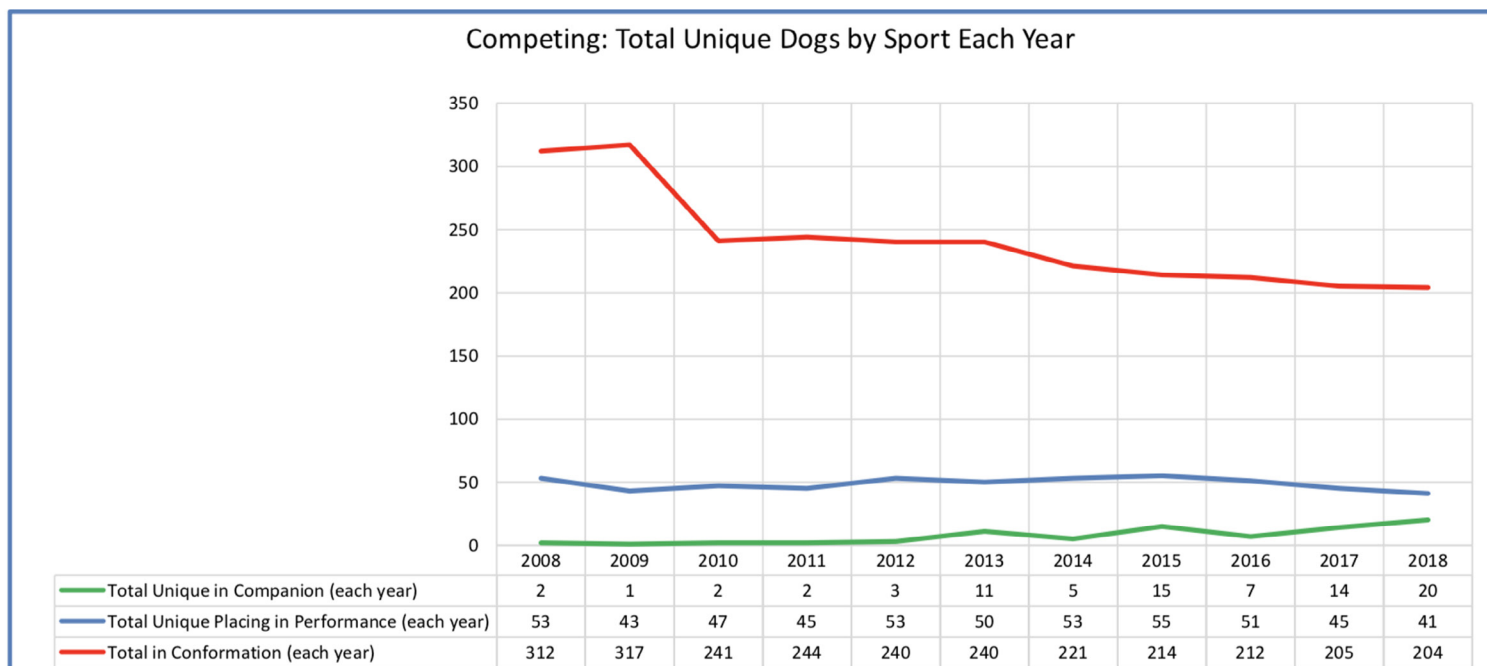


Figure 5. The red line is the total number of unique individuals competing in Conformation each year. The blue line is the total number of unique individuals placing in Performance events each year. The green line is the total number of unique individuals competing in Companion events each year.

A unique individual, as depicted in Figure 5, is one that is competing in a particular sport at least once during that year. For the 5-year period, 2008-2012, there was an average of 271 unique individuals competing each year in Conformation. For the next 5-year period, 2013-2017 the number of unique individuals competing in Conformation dropped to an average of 218 individuals each year. This is a 20% decrease from the first half of the decade to the second half. Interestingly, in the first half of the decade there were 268 individuals registered each year and almost the same number of average number of unique individuals, of all ages, were shown in the conformation during that same time period. In the second half of the decade there was actually more, on average, unique individuals shown than was registered during that same time period (181 individuals).

For the first 5-year period, an average of 48 unique individuals placed at least once in each year in a Performance event. For the second 5-year period, the average stayed pretty steady at 51. The Performance events most attended by Aussies were, in order of popularity, the Coursing Ability Test, Earth Dog, Fast Cat, Farm Dog Certification and Scent Work.

For the first 5-year period, an average of 2 unique individuals were shown in a Companion event each year. For the second 5-year period, this increased to an average of 10 unique individuals each year. The Companion events most attended by Aussies were, in order of popularity, Rally, Obedience, Tracking and Agility.



Global Number of Australian Terriers Registered Each Year(2008-2017)

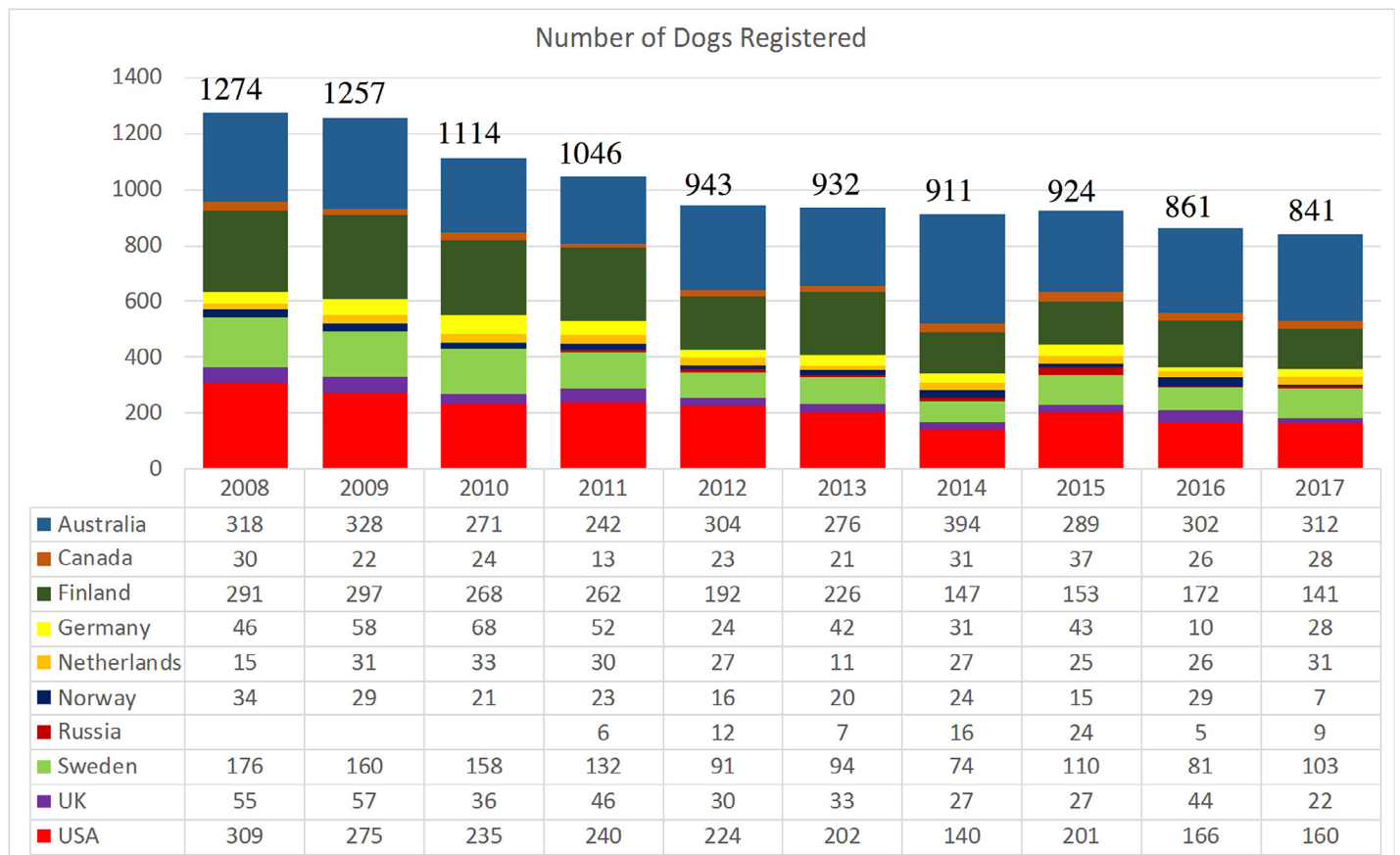


Figure 6. Each color represents the yearly total number of individuals registered for a particular country. The colors match the legend in alphabetical order with blue for Australian on down to red for the USA. The number at the top of each stacked bar graph is the total global number of Australian Terriers registered for that year.

According to Figure 6, there has been an overall decrease of 21% in the average number of Australian Terriers registered globally in the first 5-year period, 2008-2012 of the decade represented when compared with the second 5-year period, 2013-2017 (1127 and 894 individuals, respectively). Each country has experienced differing levels of change in the number of individual registered from the first half of the decade to the second. Germany has the highest decrease from the first 5-year period to the second with a 38% decrease. This is possibly due to the number of imported dogs being included in the total registered in Germany. The statistics received did not separate those born within the country and those imported. Finland and Sweden experienced nearly the same, above the global average, decrease, 36%, between the two time periods. The UK and the USA each experienced slightly less, still above global average, decreases of 32%. Norway's decrease was 23%, close to the global average for the decade. Canada and Australia have enjoyed an increase of individual registrations over the whole decade with 28% and 8% increases, respectively. While the population is small, Russia appears to be enjoying an increase in individuals registered of 36%. It is unknown if there were no Australian Terriers registered in that country prior to 2011 or if the numbers were just not available.



Global Number of Australian Terrier Litters Each Year (2008-2017)

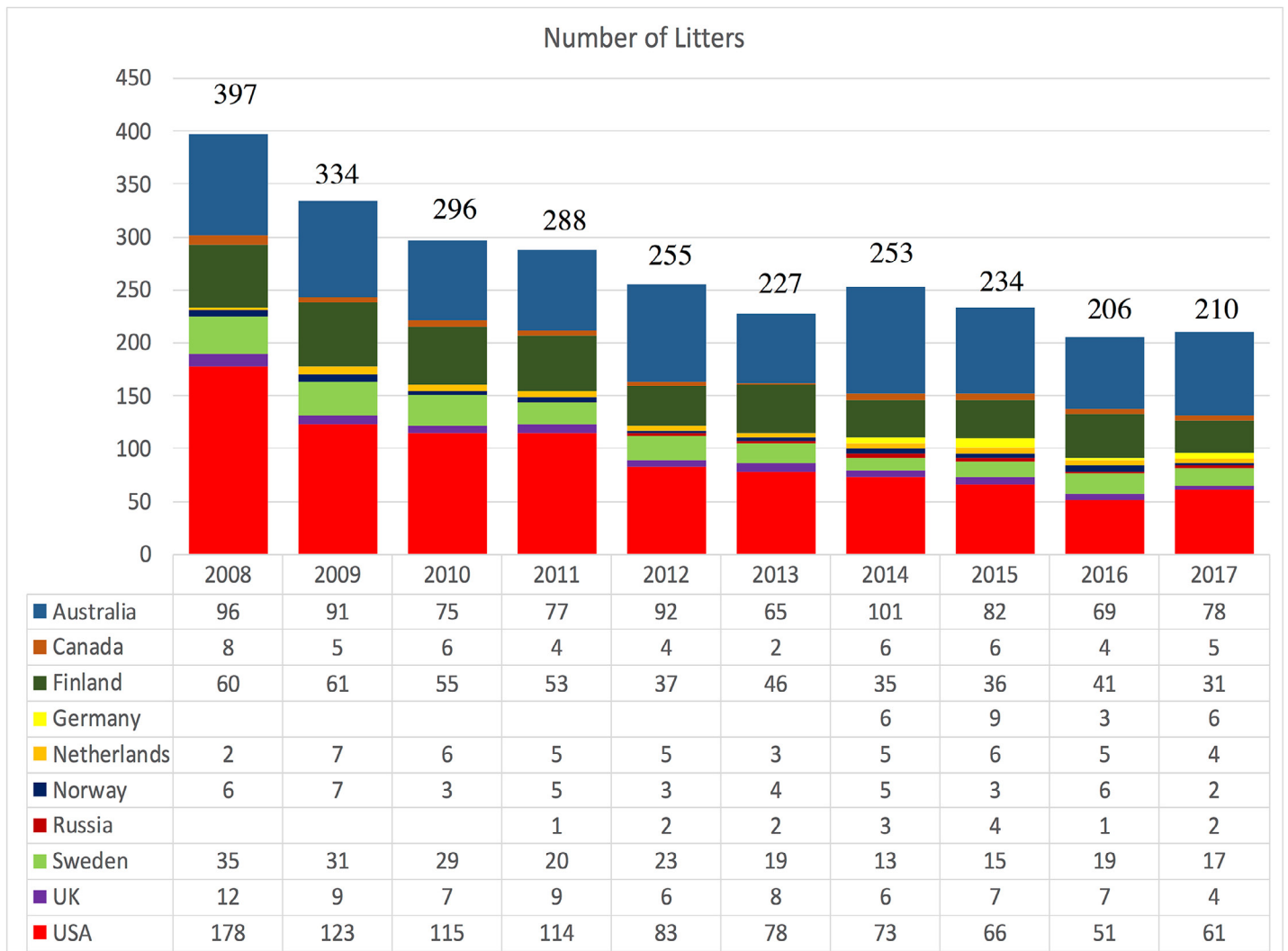


Figure 7. Each color represents the yearly total number of litters registered for a particular country. The colors match the legend in alphabetical order with blue for Australia on down to red for the USA. The number at the top of each stacked bar graph is the total global number of litters registered for that year.

Over all, as seen in Figure 7, there has been a 28% decrease in the average number of litters registered globally comparing the first 5-year period, 2008-2012, with the second 5-year period, 2013-2017 (314 and 226 litters, respectively). Each country has experienced differing levels of decrease in litters registered. The USA has the highest decrease from the first 5-year period to the second with a 46% decrease. Sweden has also experienced, a greater than average, decrease, 40%, between the two time periods. The UK and Finland have experienced, near global average, decreases with 26% and 29%, respectively. Norway and Canada appear to have, less than average, decreases with 17% and 15%, respectively. The Netherlands and Australia seem to have enjoyed much more stable litter registrations over the whole decade with only an 8% decrease seen by both countries. Russia appears to be enjoying an increase in litters registered of 60%. It is unknown if there were no litters of Australian Terriers born in that country prior to 2011 or if the numbers were just not available.



Global Number of Australian Terriers Born Each Year(Complement for 2008-2017)

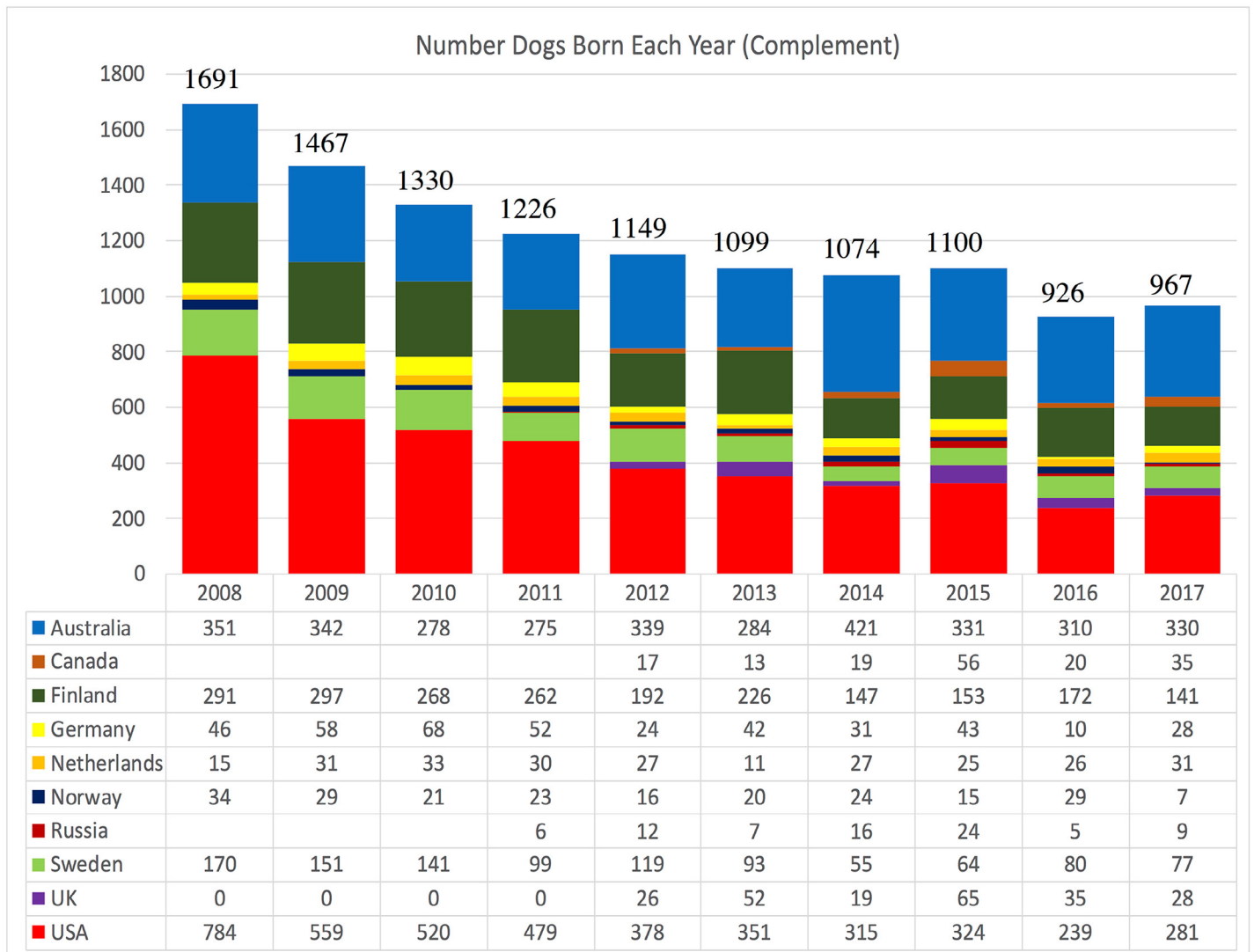


Figure 8. Each color represents the yearly total number of Australian Terriers born in a particular country. The colors match the legend in alphabetical order with blue for Australia on down to red for the USA. The number at the top of each stacked bar graph is the total global number of Individuals born in that year.

The complement, the number of puppies born each year, was estimated for the UK, Sweden and Australia in Figure 8, as this statistic wasn't received from those countries. They are calculated from the number of litters born and the average number of puppies/litter born each year in the data sets received. Data wasn't provided for Russia prior to 2011 nor for Canada and the UK prior to 2012.

A global average of 1373 individuals were born in the first half (2008-2012) of the decade represented in Figure 8. The second half of the decade (2013-2017) had a global average of 1033 individuals. This is a decrease in average global complement from the first half of the decade to second of 25%. The USA was second to Sweden in the greatest decrease in the complement over the decade with decreases of 44% and 46%, respectively. Finland and Germany saw similar decreases of 36% and 38%, respectively. Norway's decrease in complement over the decade is 23%, very similar to the global average. Australia enjoyed a very stable population with a 6% increase seen from the first half of the decade to the second half. Russia, the UK and Canada, all have apparent increases in their complements from one half of the decade to the next (36%, 56% and 68%, respectively). Again, these apparent increases could possibly be due to missing data in the first decade.

In Figure 2, it was calculated the average percentage of the USA complement lost to the gene pool in 2008-2012 in the USA was 55%. The average percentage of the USA complement decreased significantly to 42% for the second half of the decade (2013-2017). This is much larger than global average of the complement lost to the gene pool in either the first half of the decade (22%) or the second half of the decade (16%). Almost all of the complement lost to the gene pool is likely attributed to the USA as most countries have mandatory registrations of all their puppies born in each litter.

Global Average Number of Puppies/Litter Born Each Year (2008-2017)

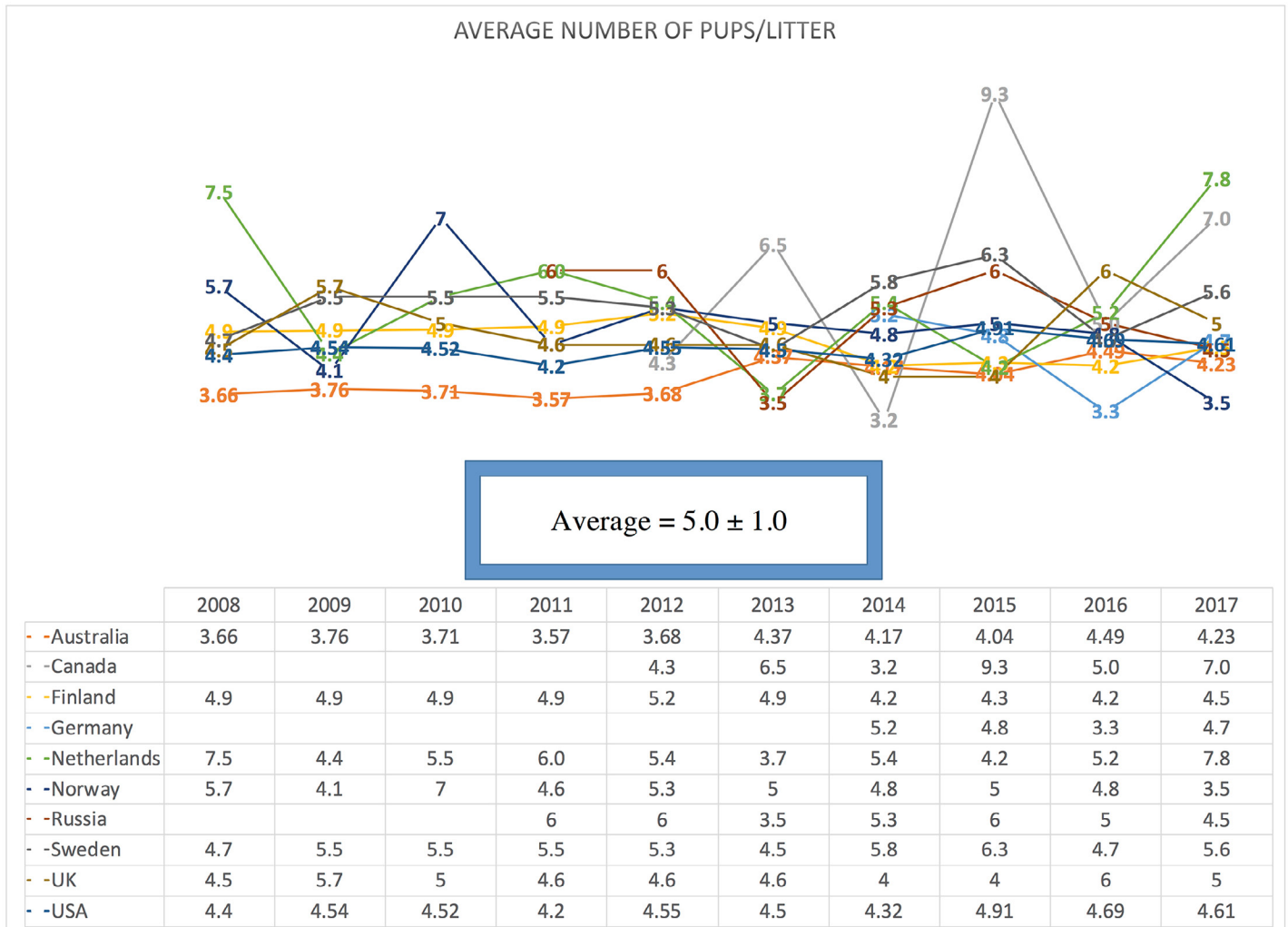


Figure 9. Each line corresponds to the average number of puppies/litter born each year for a particular country. The legend is arranged alphabetically starting with Australia represented with an orange line and ending with the USA represented with a blue line. The average number of puppies/litter each year is represented as a number along each countries line.

The number of puppies/litter each year was calculated for Canada, Finland, Germany and the Netherlands. The number of litters and the complements was used from the data set provided for each country.

The global average number of puppies/litter, taking into account all countries and all years, is 5 puppies with a standard deviation of 1 (for a range of 4-6 puppies/litter). The Netherlands, Canada and Norway, all countries with relatively low numbers of litters, have the highest average number of puppies/litter for a single year - more often than any other country. The 5-year average number of puppies/litter has improved from the first half of the decade to the second half of the decade for Australia and Canada. It has declined for Finland, the Netherlands, Norway and Russia. The 5-year average has stayed relatively steady from the first half of the decade to the second half for Sweden, the UK and the USA.

A low of 3.7 for the first half of the decade in Australia is the only low 5-year average to fall outside the expected low side of the global average of 4 puppies/litter. A high of 6.2 for the second half of the decade in Canada is the only 5-year average on the high side of the global average of 6 puppies/litter.



Global Number of Australian Terriers Imported Each Year (2008-2017)

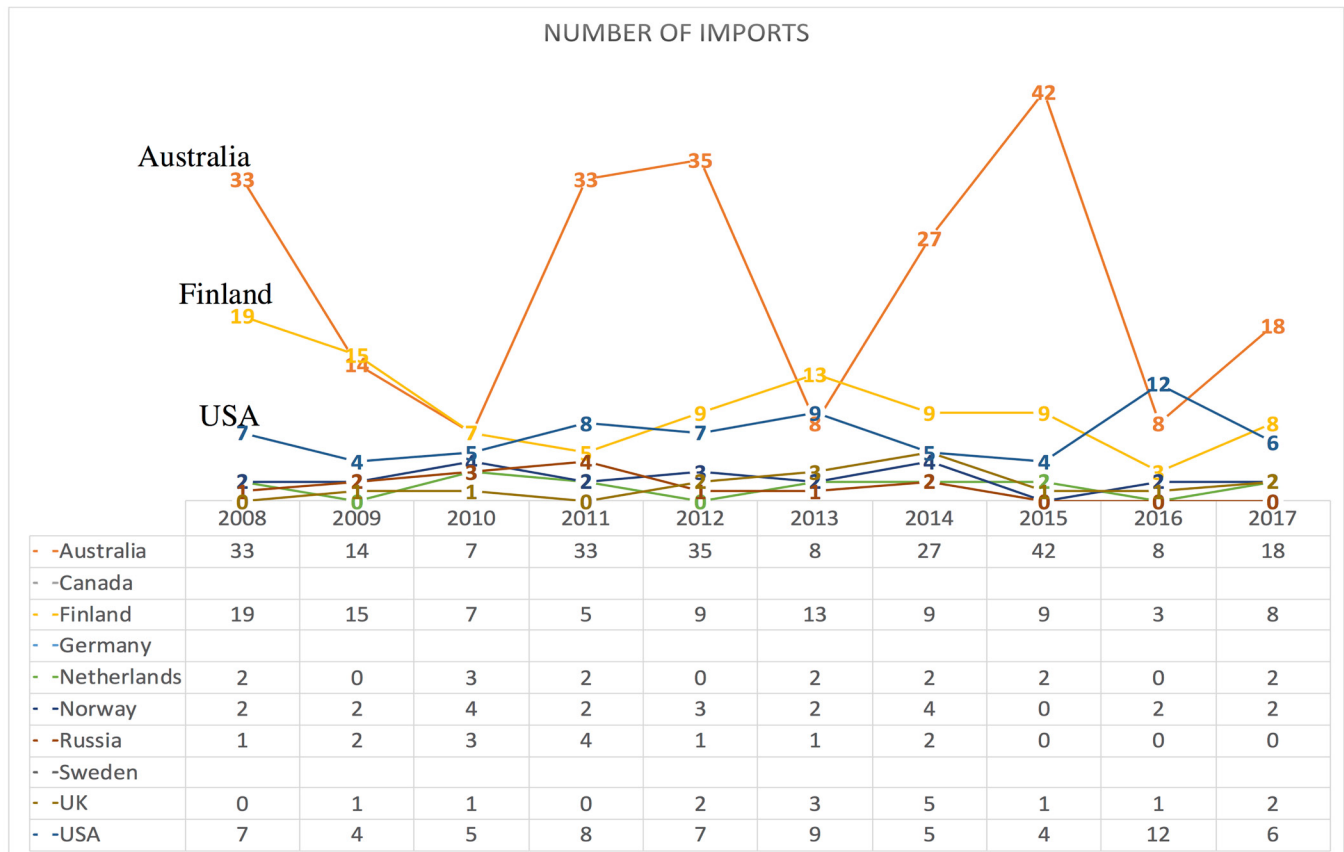


Figure 10. Each line represents the number of imported Australian Terriers into a country each year. The legend is arranged alphabetically starting with Australia represented with an orange line and ending with the USA represented with a blue line. The total number of imports each year is represented as a number along each countries line.



Australia imported the most number of of Australian Terriers every year except 4 with as many as 42 individuals imported in a single year (2015). The total imported by Australia over the 10-year period was 225. Finland imported the second highest number of Aussies over the 10-year period with 97 imports. The USA imported the third highest number during the same time period with 67 imports. Import data was not provided for Canada, Germany or Sweden.



Conclusions

Since 1960, the number of Australian Terriers registered with AKC peaked in 1971 at 1,313 and proceeded to decline to a low of only 145 individuals in 2014. In 2017, slightly more were registered in the USA (166). This corresponds to only 61 litters and a total of 281 individuals born. Globally, in 2017 there was a total of 210 litters born (slightly higher than the 10 year low of 206). This corresponds to only 967 Australian Terriers born worldwide that year. Globally, there has been a 25% decrease in the number of puppies born from the 5-year average of 2008-2012 compared to the 5-year average of 2013-2017.

With the strong global litter averages (5 ± 1 puppies/litter), and global importation, all hope in future of the breed is not lost. But time is of the essence and now is the time to act. We must breed more Australian Terriers and create new quality lines while maintaining the established quality lines. In the USA, on average we lost 42% of our gene pool during that time by not registering 100% of our puppies. The global loss to the gene pool during the same period was only 16%, mainly due to practices in the USA as most other countries register all of their puppies. In addition to registering all of our puppies, we could possibly consider breeding more of the complement and review our mandatory spay/neuter practices for pets. Each quality pet altered reduces the gene pool accordingly.

During the Education Day at the 2018 ATCA National Meeting, Jerold S. Bell, DVM from Tufts University gave a wonderful seminar on the genetic diversity of the Australian Terrier. The full video is available on YouTube. Dr. Bell discussed the importance of genetic diversity in rare breeds like the Australian Terrier. Genetic diversity, gene diversity, and maintenance of healthy breeding lines are extremely important to rare breeds. The Australian Terrier has a better than 10 generation inbreeding coefficient when compared with other breeds with genetic diversity concerns. Choosing genetically the best stud for the bitch, and not just the one winning all the awards, helps to prevent "Popular Sire Syndrome" and maintain our genetic diversity.

With the loss of the number of Australian Terriers from the gene pool over the years, we must be intentional in our commitment to sustain and preserve our breed. Without an intentional commitment, the Australian Terrier could join other breeds that have become extinct. The ATCA Sustainability Committee is working to secure a sustainable future with the Australian Terrier. Join us in our work.

We must promote the breed so that more people recognize an Australian Terrier. In 2019, ATs were on billboards in New York City, a AKC commercial and print ads for the national dog show, and the subject of a new book. They are also showing up more in regular advertising, such as Target and Naval Exchange ads and printed on product packaging. The more people that know about the Australian Terrier, the more they will realize what a great versatile companion they are and inquire as to ownership. To reverse the trend we must act on behalf of our best friends.

Here are 5 things each breeder can do to help sustain the Australian Terrier and turn around the downward trend.

1. **Talk about Australian Terriers** to everyone. It's easy.
We all love Australian Terriers. Be a Breed Ambassador to the dog loving public. Walk your dog in town, take them to the pet store, talk to girls scouts, boy scouts, and any other civic group you can about how they are a wonderful dog and companion. Tell stories of the bravery and intelligence, show pictures of them as puppies. Post adorable photos all over social media. Spread the love of the AT.
2. **Breed.**
Have a purposeful purebred litter. Register all puppies with the AKC.
3. **Health test** breeding pairs.
*Healthy breeding pairs create healthy puppies.
Healthy puppies create better future generations.
The ATCA recommends thyroid, patella, and eye exams.*
4. **Preserve Frozen semen**, it is essential for future breeding generations.
Maintaining existing lines is critical to preventing extinction of the Australian Terrier. If you are considering retiring from active breeding, leave a legacy to younger breeders. Do not allow your frozen semen to be discarded. Set up a legal document, give ownership rights to another breeder, leave your legacy to the next generation.

As well-established breeders age out of active breeding, we must do all that can be done not to lose the genetic diversity of their lines.
5. **Join the ATCA.**
If you are already a member, reach out to Australian Terrier enthusiasts and sponsor them to become a new member of the club. Help to increase the ATCA membership and strengthen the club. Sponsoring a new member is easy.

What will happen to the Australian Terrier in the next ten years?

You can make the difference by taking intentional action to sustain the Australian Terrier.

Please join us in sustaining and preserving the breed.

Please use citation:

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