## Svenska Isländsk Fårhund Klubben



## Annual report for the year 2013

The $19{ }^{\text {th }}$ International seminar for the Icelandic Sheepdog Salnö Gård $24^{\text {th }}-26^{\text {th }}$ October 2014

## Board members

Chairman: Ingbritt Sannel
Vice Chairman: Elisabet Idefelt
Treasurer: Johanna Beijer
Secretary: Ulrika Bjursten-Gunnarsson
Committee member: May Britt Sannerholt, Nina Hellström and Mi Lilja

1. Substitute: Marie Lindström
2. Substitute: Tina Andersson

## Commitees

Breeding responsible: May Britt Sannerholt, e-mail: avel@islandshunden.se
Editor for the club magazine: Ingbritt Sannel
Herding responsible: Marie Lindström
Agility, obedience and rally responsible: Elisabeth Idefelt
Show Committee responsible: Ingbritt Sannel

## Club members

|  | $\mathbf{2 0 1 3}$ <br> $31^{\text {th }}$ December | $\mathbf{2 0 1 2}$ <br> $31^{\text {th }}$ December | 2011 <br> $31^{\text {th }}$ December | $\mathbf{2 0 1 0}$ <br> $31^{\text {th }}$ December | $\mathbf{2 0 0 9}$ <br> $31^{\text {th }}$ December |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Members | 269 | 262 | 304 | 382 | 439 |
| New members <br> this year |  |  |  |  |  |

## Others

## Official address:

SIF, c/o Ulrika Bjursten-Gunnarsson, Vassbacken Mjöshult, 50496 Bredared

## Summary

95 dogs registered 2013
Average litter size $=4,5$
Average inbreeding $=1,7 \%$
Average generation interval $=5$ years
Utilized effective populations size (Ne)=500, Available (Ne)=63
Mating types $=353$ litters less related than cousins
Ninety five (95) dogs were registered by Svenska Kennelklubben (SKK) last year. That is figures which we are quite satisfied with. Among the total number of registered dogs 2013 there were 89 Swedish born puppies out of 18 litters. The other six (6) dogs were imports from Iceland.

Among the dogs used in breeding 2013 were 16 males and 18 females. Every one of them was between $2-6$ years of age.

The average litter size was 4,5 puppies/litter which we are quite satisfied with. Year 2007 we had a result of 5 puppies/litter. A result that we only have reached once. Knowing that 5 puppies/litter is possible to reach, it is our goal to reach that level again.

The average inbreeding calculated on five generation is as low as $1,7 \%$. This result is below SIFK's recommendation which is $2,5 \%$.
The effective population size for the period 2009-2013 is: The utilized $\mathrm{Ne}=500$ and the available $\mathrm{Ne}=63$ animals. Together with an average generation interval of 5 years we are very satisfied with the result of the breeders work. It is a very positive result but..... The use of new blood is still essential in practical breeding as well as international exchanges of dogs.

## Health

The Icelandic Sheepdog is a very healthy breed. As far as we know from official results and from SIFKs' members there are no signals telling us about diseases to be aware of. The kind of diseases that shows up in the breed is what is normal in a dog breed as well as in a population of humans.
SIFK will still keep an eye on the HD situation together with the results from eye examinations and of cause we follow what happens in the other countries as well.

SIFK's main goal is to keep the genetic variation wide. The effect of a wide genetic variation is to keep the risk for serious diseases to be spread in the whole population low and hopefully we still will be able to look up on the breed from a healthy point of view also in the future.

## Mentality

There are 122 dogs between 12 - 24 months of age with a complete score sheet from mental description.
In average the intensity scale shows that the dogs do not play but show interest.
They show less activity in all kinds of play.
The intensity scale for curiosity/fearlessness shows that dogs in average walk up to the unknown thing/functionary when their owner stands beside.

The intensity scale for sociability shows that dogs in average accept contact and walk away without engagement with an unknown person.

The intensity scale for aggressiveness shows that dogs in average do not show any aggressively or maybe one or two aggressive threats in the beginning.

## Litters

|  | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Litters | 18 | 17 | 19 | 24 | 17 |
| Puppies <br> registrated | 95 | 53 | 87 | 123 | 69 |
| Average size <br> of litters | 4,5 | 3,2 | 4,3 | 4,8 | 4,0 |
| Average <br> inbreeding \% | 1,7 | 1,3 | 1,5 | 2,1 | 1,6 |

## Imports

|  | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Iceland | 6 | 1 | 3 | 2 |  |
| Norway |  | 1 |  | 4 | 1 |
| Denmark |  |  | 2 | 1 |  |
| Finland |  |  |  |  | 2 |
| Germany |  |  |  |  | 1 |

## Further comments:

During the last five years it is most common to import dogs from Iceland. The second most common country to import dogs from is Norway.

## Hip Dysplasia (HD)

| Total number of <br> X-rayed dogs | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 0 9}$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| A | 10 | 10 | 15 | 15 | 31 |
| B | 8 | 10 | 7 | 7 | 16 |
| A+B | 18 | 20 | $\mathbf{2 2}$ | $\mathbf{2 2}$ | $\mathbf{4 7}$ |
| C | 15 | 7 | 7 | 2 | 13 |
| D | 3 | 2 | 3 | 6 | 2 |
| E | 18 | 1 | 3 |  | 1 |
| C+D+E | $\mathbf{1 0}$ | $\mathbf{1 3}$ | $\mathbf{8}$ | $\mathbf{1 6}$ |  |
| In total | $\mathbf{3 6}$ | $\mathbf{3 0}$ | $\mathbf{3 5}$ | $\mathbf{3 0}$ | $\mathbf{6 3}$ |

## Further comments:

Method - FCl's (Fédération Internationale Cynologique) rules for x-ray.
The figurs shows the result of the total number of dogs which are e-rayed year by year. The average age of a dog when owners $X$-ray their icelandic sheepdogs in Sweden is about $21-25$ months of age.

The numbers of dogs with $D$ and $E$ hips are quite constant. In the period of the last five years it has been between 1 - 6 dogs/year. We had an increase in 2010 with 6 dogs with remark D and there were 3 dogs with remark D and 3 dogs with remark $E$ year 2011.
SIFK's recommendation is that the hip dysplasia situation should be known for dogs used in breeding. There are two reasons for that. One is to statistically certain the results and the second is that Svenska Kennelklubbens (SKK) breeding policy says: " It could never be recommended to mate two serious (D and E) dysplasi.

## Elbow dysplasia (ED)

| Total number of <br> x-rayed dogs | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Level 0 | 5 | 3 | 8 | 8 | 15 |
| Level 1 | 1 |  |  |  | 1 |
| Level 2 |  |  |  |  | 1 |
| Level 3 |  |  |  |  |  |
| In total | 6 | 3 | 8 | 8 | 17 |

## Further comments:

It is not very common to X-ray elbows in our breed. Therefore there are not many ED results in the Swedish Icelandic Sheepdog population. During the years $1990-2013$ the total number of X-ray dogs is 139 . Only six of them have got remarks; five dogs have got grade 1 and one has got grade 2.

## Patella luxation:

| Total number of <br> x-rayed dogs | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Level 0 |  |  |  |  | 3 |
| Level 1 |  |  |  |  |  |
| Level 2 |  |  |  |  |  |
| Level 3 |  |  |  |  |  |
| In total | 0 | 0 | 0 | 0 | 3 |

## Further comments:

The total numbers of $x$-rayed dogs is very few. Only four dogs are diagnosed and all are free. The first Icelandic Sheepdog which was diagnosed was registered 2002 and number two was registered 2005.

## Eye examinations

| Total number of <br> x-rayed dogs | $\mathbf{2 0 1 3}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 0}$ | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Unaffected <br> signifies (free) | 29 | 29 | 32 | 34 | 47 |
| Hereditary <br> Cataract |  | 1 |  |  |  |
| Cornea dystrophy |  |  | 1 |  |  |
| Distichiatis |  |  |  |  |  |
| Others <br> (see below) |  |  | 2 | 1 | 1 |
| In total | 29 | 30 | 35 | 35 | 48 |

Other hereditary eye diseases:
Cataract in the hinder area of the central lens
Cataract others.

## Further comments:

About $25 \%$ of all registered dogs since 1990 have done an eye examination.
Year 2012 one dog got the remark, hereditary cataract. The dog's name, Elmo Av Ylveli is born in Norway
Two dogs registered 2011, one 2010 and one 2009 have got the remark (cataract in the hinder central lens). The total number of dogs with remarks is listed in appendix.

We need more dogs to be eye examine though the results do not show any health problem. The numbers of dogs yearly examined are too few to guarantee a healthy situation in the breed.

SIFK's recommendation is that all dogs used in breeding should be eye examine before mating.

Health, optional testing

|  | 2012 | 2011 | 2010 | 2009 | 2008 |
| :--- | :--- | :--- | :--- | :--- | :--- |
| BEAR <br> (Hearingdiseases) |  |  |  |  |  |
| Heart diseases |  |  |  |  |  |
| Kidney diseases |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

## Further comments:

There aren't any official results recognized by the Swedish Kennel Club for the breed.

## Mentality descriptions (MH and BPH)

|  | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Descripted <br> dogs MH | 9 | 9 | 13 | 3 | 22 |
| Descripted <br> Dogs BPH | 7 | 2 |  |  |  |
| In total | 16 | 11 | 13 | 3 | 22 |

## Further comments:

The total numbers of Icelandic Sheepdogs which have taken part in Mentalbeskrivning Hund (MH) with a complete score sheet is by the end of 2013 are 108 dogs.
Last year, 2013, nine (9) dogs participated and all fulfill the description.
The Swedish Kennel Club open up for all breeds to take part in the new behavior and personality description in dogs, in Swedish called Beteende och Personlighetsbeskrivning Hund (BPH) in 2012. Two Icelandic Sheepdogs took part in the description with a complete score sheet the first year and 7 dogs with a complete score sheet last year.

If we see to the group of dogs between $12-24$ months with a complete score sheet at MH , the total numbers of dogs is 122 . The average figures for these dogs are shown in an intensity scale above.

## Egenskapsvärden



- Medelvārde (ras, 122 st, 12-24 månader)


## The average figures for these dogs on the intensity scale 1-5 are:

| Deskription | Average |
| :--- | :---: |
| Curiosity /fearlessness (Nyfikenhet/Orädsla) | 2,9 |
| Aggressiveness (Aggressivitet) | 1,7 |
| Sociability (Socialitet) | 3,6 |
| Chase- proneness (Jaktintresse) | 1,8 |
| Playfullness (Lekfullhet) | 2,6 |

## The average figures means:

With an average of 2,9 for curiosity/fearlessness means that dogs in average walk up to the unknown thing/functionary when their owner stands beside.

With an average of $\mathbf{1 , 7}$ for aggressiveness means that dogs in average do not show any aggressively or one or two aggressive threats in the beginning.

With an average of $\mathbf{3 , 6}$ for sociability means that dogs in average accept contact and walk away without engagement with an unknown person.

With an average of $\mathbf{1 , 8}$ for chase-proneness means that dogs in average do not start or they start but stopped.

With an average of 2,6 for playfulness means that dogs in average do not play but shows interest.

## Working abilities (herding) descriptions

|  | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Descripted <br> dogs | 0 | 12 | 19 | 17 | 32 |
| In total | 0 | 12 | 19 | 17 | 32 |

## Further comments:

Svenska Isländsk Fårhund Klubben (SIFK) didn't arranged any herding descriptions last year.

## Shows

|  | 2013 | 2012 | 2011 | 2010 | 2009 |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Number of <br> shows | 1 | 1 |  | 1 |  |
| Number of <br> dogs | 64 | 64 |  | 32 |  |
| In total <br> (dogs) | 64 | 64 |  | 32 |  |

Further comments: Svenska Isländsk Fårhund Klubben's yearly club show were held in Katrineholm. Ambjörn Lindqvist judged 64 dogs

## Events

This past year we have worked hard to keep members in the club and to attract new members as well. Hopefully we now have a positive trend. We work according to the plan we present every year at the general assembly.
Inspired by what we have seen in Denmark and Norway we decided this year, 2014, to make our special show part of a three day event. The first weekend in August we had some great days together. For the first time ever we could offer herding, both as something to test and as a possibility to become Club Champion in herding, there were five dogs that took part in the competition and all of them did quite well. The second day we had the special club show with judge Hans-ÅkeSperne. He picked Vestanvindur Atli as BOB and Stefsstells Paradis as BOS. In the evening we had a meal together and a lecture with Hans-Åke. The last day we were able to have club championships in both Agility and Rally obedience. We are quite pleased with our weekend and will try to keep this way of organizing our yearly show and develop it further.
We were active at Stockholm dog show in December, having an information stall and taking part in the breed parade where we won fourth prize!
We encourage members to invite to meetings locally. This has been a great success and is something we will continue to develop to engage more members?

## Effective population size

## Goals/Other Comments e.g. Lathunden; PerErik Sundgren

Recommended effective population size/breeding base is > (more than) 100 and not < (less than) 50.
An effective population size of about 150 - 200 is large enough to stop heavy losses of genetic variation.

Utilized Breeding Base shows how the dogs actually have been used in breeding.
Available Breeding Base tells us what is possible to reach with a different way to use the dogs in breeding and with the same dogs available in the same period.

The calculated effective population size has more opportunities (Available). The figure of available breeding base $=63$ dogs tells us what is possible to reach.
With the figure (Utilized breeding base $=500$ ) it does not say anything about the number of breeding animals actually used in breeding. It tells only that the increase of inbreeding in the entire population in Sweden was less than in a randomly mating idealized population of 500 individuals equally distributed on two sexes.
High values for Ne can sometimes show up in small populations. It happens when the progenies' inbreeding is slightly higher or maybe lower than their parents' generation.

The efficient population size in Sweden has slowly become better but it is still below the recommended level.

Utilized and available effective populations size of the Swedish population 1998-2012 ( $\mathrm{Ne}=$ effective populations size or breeding base)

| Period | Tot.no. <br> of litters | Tot.no. <br> of dogs | No. of litters <br> determine | No. of dogs <br> determine | Utilized <br> (Ne) | Available <br> (Ne) | Inbreeding <br> $\%$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathbf{2 0 0 9 -}$ | 135 | 453 | 122 | 437 | 500 | 63 | 1,8 |
| $\mathbf{2 0 1 3}$ | $2004-$ | 184 | 668 | 173 | 655 | 62 | 91 |
| $\mathbf{2 0 0 8}$ | 237 | 857 | 224 | 839 | 96 | 53 | 4 |
| $\mathbf{1 9 9 9}$ <br> 2003 | 237 |  |  | 4 |  |  |  |

## Mating types

| Mating types <br> (2004-2013) | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | $\mathbf{4}$ |
| :--- | :---: | :---: | :---: | :---: |
| No. Of litters | 353 | 72 | 35 | 6 |
| Inbreeding \% | 1,9 | 8,7 | 15,9 | 25,5 |
| Average littersize | 4 | 4,2 | 3,9 | 4,2 |

## Svenska Isländsk Fårhund Klubben9

Type I = parents less related than cousins ( $\mathrm{Fx}<6,25 \%$ )
Type II = parents related as cousins but less than half sibs ( $\mathrm{Fx}=6,25-12,24 \%$ )
Type III = parents related as half sibs but less than full sibs ( $\mathrm{Fx}=12,5-24,99 \%$ )
Type IV = parents are related as full sib or parents to progeny ( $\mathrm{Fx}>=25 \%$ )

## Further comments:

Mating types include all Swedish registered second and third litter in the database (LatHunden).
The average value calculated on less than 30 litters couldn't not be looked up on as representative for the breed and isn't show a reliable picture of the connection between inbreeding and fertility.

A scientific study shows that parents closer related than 12,5\% results in a higher risk of different inbreeding problems in the offspring.

## Generation interval

Dr. Per-Erik Sundgren says "Change in genetic, and thus loss of genetic variation, can only take place between successive generations. Thus the rate of change over time is dependent on the generation interval, the number of years between the first litter of the parents and the average age of their progenies when they produce their first litters."

Calculated on a ten years period (2004-2013) the average generation interval was:

Father to sons
Father to daugthers
Mother to sons
Mother to daughters
$=1861$ days $=5,1$ years
$=1773$ days $=4,9$ years
$=1828$ days $=5,0$ years
$=1797$ days $=4,9$ years

The total average generation interval for parents to progenies for the period is $=1815$ days $=\mathbf{5}$ years The recommended average generation interval is 5 years.

It is recommended that the average generation interval is a subject to keep an eye on because too strong selection and rapid generation turnover may cause a serious threat to the health and viability of the breed.

## Parents age when they debut in breeding

Parents age when they got their first litter. Litters born 2013.

|  | $0-6$ Months | $7-12$ months | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ years | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mother | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 4 |
| Father | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 5 |
| Total | 0 | 0 | 0 | 0 | 7 | 1 | 1 |  |

Parents age when they got their first litter. Litters born 2012.

|  | $0-6$ months | $7-12$ months | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ ar years | Total |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mother | 0 | 0 | 1 | 0 | 3 | 4 | 0 | 8 |
| Father | 0 | 0 | 0 | 0 | 2 | 3 | 2 | 7 |
| Total | 0 | 0 | 1 | 0 | 5 | 7 | 2 |  |

Parents age when they got their first litter. Litters born 2011.
$0-6$ years $7-12$ years $13-18$ months $19-24$ months $2-3$ years $4-6$ years $<7$ years Total

| Mother | 0 | 0 | 0 | 0 | 7 | 6 | 0 | 13 |
| :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: |
| Father | 0 | 0 | 1 | 0 | 4 | 6 | 1 | 12 |
| Total | 0 | 0 | 1 | 0 | 11 | 12 | 1 |  |


|  | 0-6 months | 7-12 months | 13-18 months | 19-24 months | 2-3 year | 4-6 years | <7 years | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Mother | 0 | 0 | 0 | 1 | 8 | 5 | 0 | 14 |
| Father | 0 | 0 | 1 | 0 | 2 | 4 | 1 | 8 |
| Total | 0 | 0 | 1 | 1 | 10 | 9 | 1 |  |

Parents age when they got their first litter. Litters born 2009.

| $0-6$ months | $7-12$ months | $13-18$ months | $19-24$ months | $2-3$ years | $4-6$ years | $<7$ years | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 0 | 0 | 0 | 0 | 5 | 3 | 0 | 8 |
| 0 | 0 | 1 | 0 | 1 | 2 | 0 | 4 |
| 0 | 0 | 1 | 0 | 6 | 5 | 0 |  |

## Further comments:

The total numbers of dogs used in breeding last year were 34 dogs. Nine (9) of them did their debut in breeding.
During the last five years there have been five (5) dogs used in breeding which have been less than 24 months old.

The ISIC and SIFK reckomentation is that dogs (males and females) are avoing from breeding before the age of 24 months.

## Males and females used in breeding

|  | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Kullar | 20 | 22 | 25 | 24 | 23 | 23 | 17 | 24 | 19 | 17 | 18 |
| Tikar | $\underline{19}$ | $\underline{21}$ | $\underline{24}$ | $\underline{24}$ | $\underline{23}$ | $\underline{23}$ | $\underline{17}$ | $\underline{24}$ | $\underline{19}$ | $\underline{17}$ | $\underline{18}$ |
| Hanar | $\underline{17}$ | $\underline{17}$ | $\underline{22}$ | $\underline{18}$ | $\underline{21}$ | $\underline{22}$ | $\underline{14}$ | $\underline{17}$ | $\underline{18}$ | $\underline{13}$ | $\underline{16}$ |

During the years more females than males have been used in breeding. The years 2005, 2007 and 2008 we reach the goal of keeping at least 20 males in breeding.
This is an important goal to reach and it is really something we have to be aware of in the future.

## Increase of genetic variation

It is necessary to increase genetic variation in the breed. The effect of keeping genetic variation wide is to keep the risk for serious diseases to be spread in the whole population low. If a hereditary disease should show up it is important to use individuals which is low related to each other and hopefully lacks the defect gene.

For that purpose we need to use as many dogs as possible in breeding and at least have as many males as females in breeding at the same time. To lower the risk from lost of genes should at least twenty males and 3-5 females per male be used in breeding at the same time.

Appendix

## Litters

|  | $\mathbf{1 9 9 8}$ | $\mathbf{1 9 9 9}$ | $\mathbf{2 0 0 0}$ | $\mathbf{2 0 0 1}$ | $\mathbf{2 0 0 2}$ | $\mathbf{2 0 0 3}$ | $\mathbf{2 0 0 4}$ | $\mathbf{2 0 0 5}$ | $\mathbf{2 0 0 6}$ | $\mathbf{2 0 0 7}$ | $\mathbf{2 0 0 8}$ | $\mathbf{2 0 0 9}$ | $\mathbf{2 0 1 0}$ | $\mathbf{2 0 1 1}$ | $\mathbf{2 0 1 2}$ | $\mathbf{2 0 1 3}$ |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Litters | 18 | 17 | 18 | 24 | 19 | 20 | 22 | 25 | 24 | 23 | 23 | 17 | 24 | 19 | 17 | 18 |
| Puppies | 57 | 69 | 70 | 97 | 104 | 77 | $94(3)$ | $91(5)$ | $119(4)$ | $113(5)$ | $120(7)$ | $69(6)$ | $123(7)$ | $87(5)$ | $53(2)$ | $95(6)$ |
| Average size <br> of litters | 3,6 | 3,9 | 3,8 | 4 | 4,3 | 4 | 4,1 | 4,3 | 3,9 | 5 | 4,5 | 4 | 4,8 | 4,3 | 3,2 | 4,5 |
| Average <br> inbreeding <br> $\%$ | 5,6 | 5,1 | 2,7 | 3,2 | 3,7 | 4,3 | 5,4 | 2,7 | 1,2 | 1,7 | 2,3 | 1,6 | 2,1 | 1,5 | 1,3 | 1,7 |

## Imports

|  | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Iceland |  |  |  |  | 2 |  |  | 3 | 2 | 3 | 3 | 2 | 2 | 3 | 1 | 6 |
| Norway |  |  |  |  | 3 | 3 | 1 |  | 2 | 2 | 4 | 1 | 4 |  | 1 |  |
| Denmark |  |  |  |  |  |  | 1 | 2 |  |  |  |  | 1 | 2 |  |  |
| Finland |  |  |  |  |  |  | 1 |  |  |  |  | 2 |  |  |  |  |
| Germany |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |

## Appendix

## Hip Dysplasia (HD)

| Total number of x-rayed dogs | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A |  |  | 20 | 13 | 13 | 18 | 31 | 20 | 11 | 23 | 15 | 31 | 15 | 15 | 10 | 10 |
| B |  |  | 6 | 8 | 7 | 15 | 16 | 5 | 11 | 19 | 7 | 16 | 7 | 7 | 10 | 8 |
| A+B | 25 | 33 | 26 | 21 | 20 | 33 | 47 | 25 | 22 | 42 | 22 | 47 | 22 | 22 | 20 | 18 |
| C | 6 | 5 | 5 | 5 | 8 | 9 | 4 | 6 | 12 | 13 | 7 | 13 | 2 | 7 | 7 | 15 |
| D | 1 |  | 3 |  | 4 | 3 | 2 | 4 | 3 | 5 | 1 | 2 | 6 | 3 | 2 | 3 |
| E | 1 |  | 2 |  | 2 |  | 1 |  |  |  |  | 1 |  | 3 | 1 |  |
| C+D+E | 8 | 5 | 10 | 5 | 14 | 12 | 7 | 10 | 15 | 18 | 8 | 16 | 8 | 13 | 10 | 18 |
| In total | 33 | 38 | 36 | 26 | 34 | 45 | 54 | 35 | 37 | 60 | 30 | 63 | 30 | 35 | 30 | 36 |

## Elbow dysplasia (ED)

| Total number of x-rayed dogs | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Level 0 | 1 | 4 | 4 | 2 | 4 | 10 | 17 | 5 | 8 | 11 | 6 | 15 | 8 | 8 | 3 | 5 |
| Level 1 | 1 |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  | 1 |
| Level 2 |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |
| Level 3 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| In total | 2 | 4 | 4 | 2 | 4 | 10 | 17 | 5 | 8 | 11 | 6 | 17 | 8 | 8 | 3 | 6 |

## Patella luxation:

| Total number <br> of x-rayed <br> dogs | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | 22013 |  |
| :--- |
| Level 0 |

## Eye examinations

| Total number of x-rayed dogs | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Unaffected signifies (free) | 22 | 19 | 11 | 10 | 26 | 34 | 28 | 20 | 24 | 41 | 21 | 47 | 34 | 29 | 29 | 29 |
| Hereditary Cataract |  |  |  | 1 |  |  |  |  |  | 1 |  |  |  |  | 1 |  |
| Cornea Distrophe |  |  |  |  |  |  |  |  |  |  |  |  |  | 1 |  |  |
| Distichiatis |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Others | 1 |  |  |  | 1 | 2 | 1 | 2 | 1 | 1 |  | 1 | 1 | 2 |  |  |
| In total | 23 | 19 | 11 | 11 | 27 | 36 | 29 | 22 | 25 | 43 | 21 | 48 | 35 | 32 | 30 | 29 |

