Summary of IWG Questionnaire Responses, 2022

Clubs Reporting

Club	Country	Contact	Members
BG		Lori Jodar	N/A
DCBS	Germany	Christian Schmid	800
BMDCC	Canada	John Simons	400/313/300
BMDCI	Ireland	Valerie Hughes	240
BMDCGB	UK	Steve Green	1100
DBSK	Denmark	Inge Bibby	503
BMDC	New Zealand	Steve Tate	200
VSSÖ	Austria	Karoline Gsell	300
CIABS	Italy	Isabella Tosti	134/107/175
KSSP	Czech republic	Martina Kopecká	743
KBS	Switzerland	Martha Cehrs	1064/989/946
MBE	Hungary	Dr Kira Martin	60
BMDCA	USA	Julie Jackson	1263
SSFS	Finland	Heli Herranen (Satu Ylä-Mononen)	1070/1076
SShK	Sweden	Toril Melangen	1055
AFBS	France	Joelle Bardet	721
VBSH	The Netherlands	Wendy van Dijk (also gave NHSB data)	
BMDCWA	Australia	Lyn Brand (also gave BMDCNSW data)	4 club breeders

Registration Numbers

Club	Year	Litters	Puppies	Dogs	Kennels	Notes
DCBS, Germany	2019		197			
	2020		222			
	2021		240			
BMDCC, Canada	2019	165	887			
	2020	231	1328			
	2021	209	1336			
BMDCI, Ireland	2019		345			18 month totals
	2020		868			
	2021		839			
BMDCGB, England			542			
DBSK, Denmark		215	1070			504m, 586f
BMDC, New Zealand	2019	15	81			
	2020	15	53			
	2021	13	81			
VSSÖ, Austria	2019	31	126			
	2020	22	117			
	2021	29	110			
CIABS, Italy	2019		1736			
	2020		1826			
	2021		2004			
KSSP, Czech republic	2019	93	569			
	2020	90	582			
	2021	114	699			
KBS, Switzerland	2019	60	363			
	2020	50	283			
	2021	50	252			
MBE, Hungary	2019	28	176	17		
	2020	32	216	20		
	2021	41	254	25		
BMDCA, USA	2019	2030	12,345	5511		
	2020	2324	14,327	6740		
	2021	2917	18,435	8755		
SSFS, Finland	2019	61	316			
	2020	55	279			
	2021	54	275			
SShK, Sweden	2019		377			stillborn and dead before registration excluded

	2020		376			
	2021		332			
AFBS, France	2018		3299			Birth nearly same level
	2019		3239			
	2020		3200			
	2021		3381			
VBSH, The Netherlands	2019	29	195			(these numbers are included in the NHSB numbers)
	2020	28	167			
	2021	30	162			
NHSB, The Netherlands	2019		1195			
	2020		1228			
	2021		1314			
BMDCWA	2019		53			
	2020		47			
	2021		39			
BMDCNSW	2019 - 2022		1738			With 7 member breeders

Interesting statistics from KSSP:

At the end of August 2022 there were 385 breeding females, 154 breeding males (not all are used)

About 19% of bitches bred do not get pregnant, the largest cause is infections diseases, especially in breeders who do not test regularly

AOD 8,2 years (from records kept in the breed book)

In terms of the most common causes of death (disease):

38% die of cancer

8% on the torso

4% for kidney failure

4% for tick-borne diseases (borreliosis, anamplasmosis,...)

2% on pyometra

29% cause unknown

15% die from other causes

Interesting statistics from the SShK:

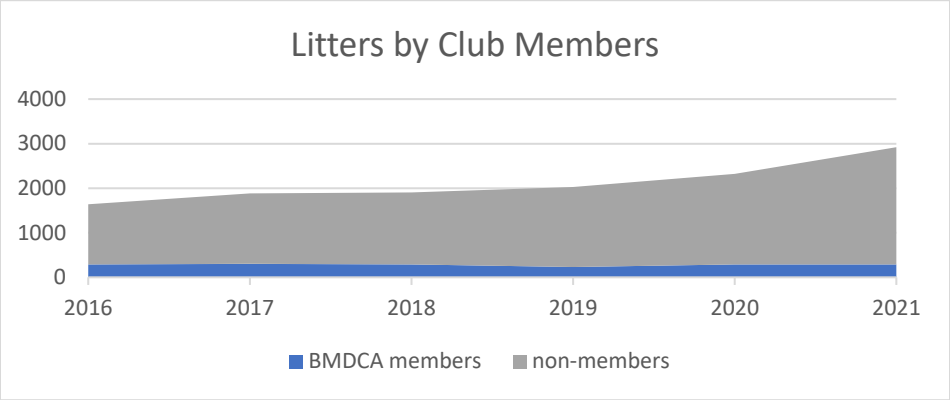
SH test prior to mating in Swedish BMDs

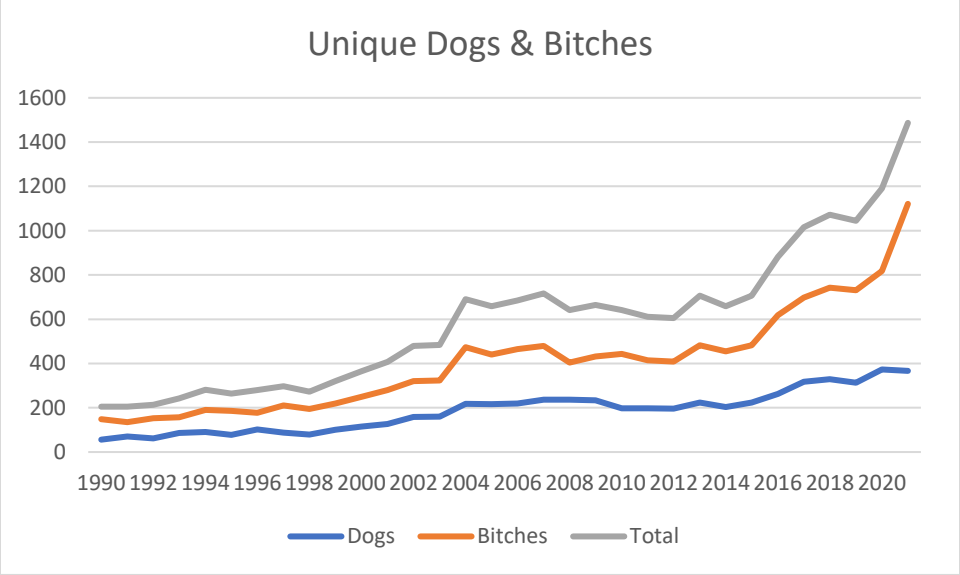
	2019	%	2020	%	2021	%
All matings	123		135		125	
Both male and female tested	21	17%	40	30%	49	39%
Only one tested	37	30%	46	34%	37	30%
Without test	62	50%	48	36%	34	27%
Unknown	3		1		5	

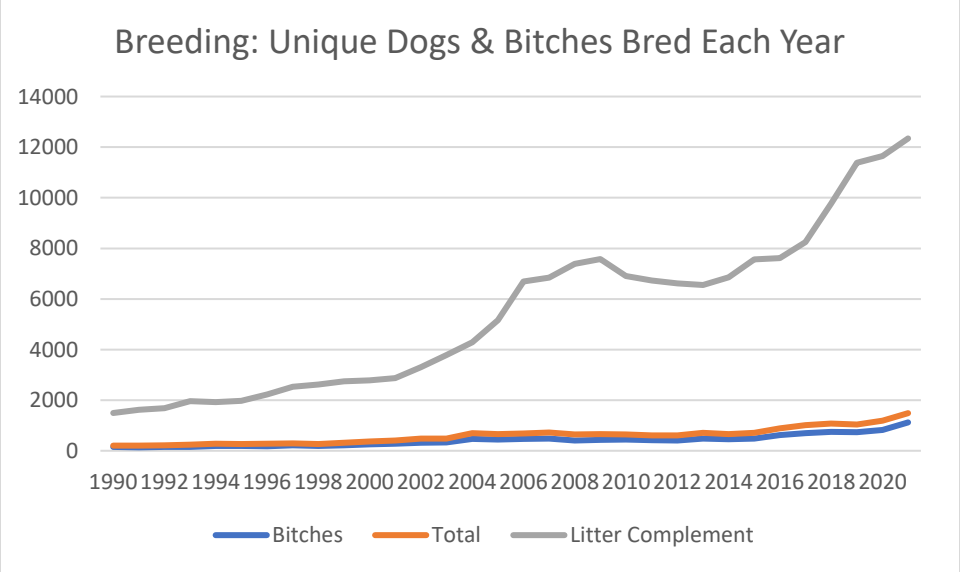
Information from breeders to SShK: 2019 – 2021
maitings and results

	2019	2020	2021
Total matings	110	124	113
Litters	63	72	59
Empty bitches	47	52	54
Total puppies born	339	374	318
Live puppies born	273	309	259
Stillborn puppies	66	65	59
Death before SKK registration	9	20	12
Caesarian section	29	28	24

Interesting statistics from the BMDCA:

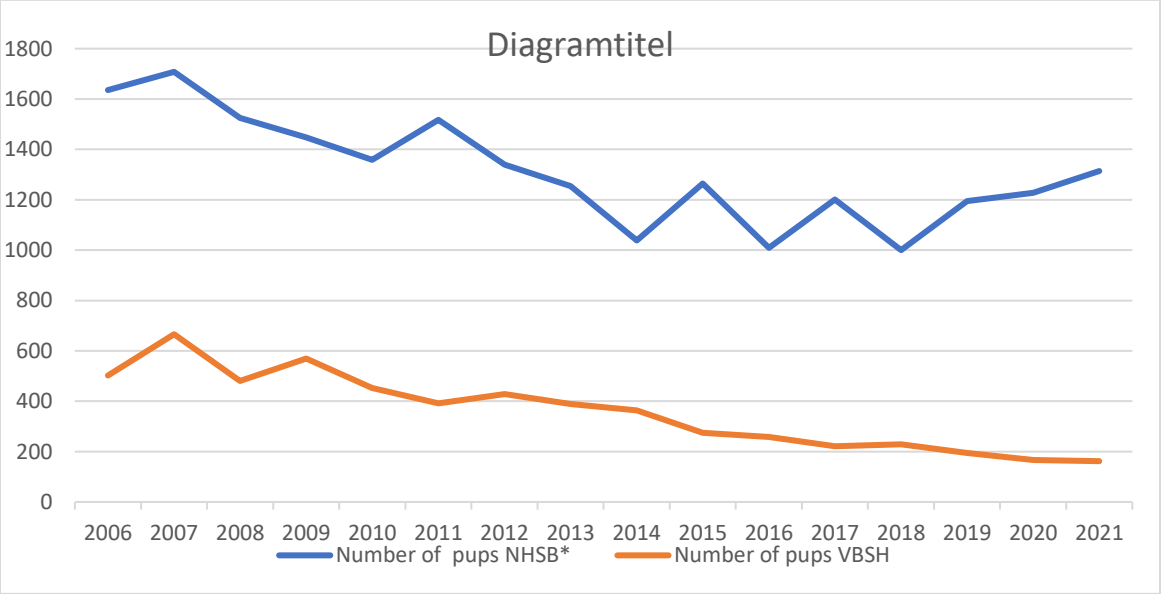






Interesting statistics from the VBSH:

Year	Number of pups NHSB*	Number of pups VBSH	Number of litters VBSH	Average pups per litter VBSH
2006	1636	502	78	6.4
2007	1708	666	105	6.3
2008	1525	480	71	6.8
2009	1448	569	85	6.7
2010	1358	453	67	6.8
2011	1518	392	57	6.9
2012	1339	429	67	6.4
2013	1255	389	58	6.7
2014	1038	363	54	6.7
2015	1265	275	41	6.7
2016	1009	258	41	6.3
2017	1201	221	35	6.3
2018	1000	229	37	6.2
2019	1195	195	29	6.7
2020	1228	167	28	6.0
2021	1314	162	30	5.4



* NHSB = Nederlands Honden Stamboek (Dutch Pedigrees Kennelclub)
(The VBSH numbers are also included in the NHSB numbers)
* VBSH - pups bred by VBSH-members (with pedigree Kennelclub)

BMD Club of Western Australia details from their 2021 Health Initiative:

Health Group	ISSUE	%
Cancer 1	Cancer	54
Orthopaedic 1	Elbow	2
Orthopaedic 2	Hip	2
Orthopaedic 3	Cruciate Ligament	2
Intestinal 1	Bloat	16
Allergies 1	Allergies	8
Nuerological 1	Epilepsy	1
Heart 1	Heart	1
Renal 2	Kidney	1
Life Span	Early Death<5 years	13
		100

Information on Health Projects/Health Initiatives during the years 2019- till now

BG – Histio
- MSU - Clinical trial to test Trametinib as a treatment, shown to be effective in mice

BMDCC – Histio
- Initiatives to increase HS testing

BG – Database
- Transformation of database for streamlining submissions and benefiting multiple platforms

DCBS – Club initiatives
- Longevity strategy still being implemented
- Support of Antagene HS test
- Further x-raying for OCD
- Reached agreement with Government Veterinary Authority on implementable requirements

BMDCI – Club Initiatives
- Encourage DM and HS testing

BMDCGB – cruciate ligament survey
- Need to learn more about severity and treatment

BMDCGB – Death Survey
- Summaries shared periodically

BMDCGB – Health and Conservation Plan
- Working with TKC to create a Breed Health and Conservation Plan

BMDCGB – Health Initiatives and Fundraising
- Group formed to help with fundraising for future projects

BMDC (NZ) – litter registration limitation

Working with the NZKC puppies will only be registered when both dam and sire have had HD, ED, and DNA testing done. Others such as vWD1 and DM may be added later

VSSÖ – All breeding dogs must pass a breeding approval test
- HD, ED, HS, DM (1 & 2). Breeding has to be approved by a breed warden, and longevity, health, structure, and temperament are all considered
- Epilepsy, other major musculoskeletal diseases are part of the consideration
- COI not allowed to be over 3.6% in the first 5 generations
- Number of litters a sire may have a maximum of 4 litters a year
- Number of litters a bitch can have by the same sire is 2
- Random puppies are selected for health tests, results reported and assessed

CIABS – promotion of the HS pretest
- Financial support given to members who do the testing

CIABS – DM (1 & 2)
- The club promotes the DNA testing, as well as confirmation of the disease on necropsy

KSSP – Breeding requirements (practically 100% of breedings are done under the club)
- Breeding individuals must have DNA, HD, ED;
- Recommended tests are: OCD, SH, DM, eyes, heart
- Dogs may only be used a limited number of times, but if they submit HS and DM results, one more cover is allowed for each test
- Close inbreeding is not allowed. Inbreeding is possible in generation 4/4 or if long AOD and cause of death can be documented, 3/4 can be allowed.
- Club organizes mass collection for SH at club events

KBS – 20 year health commission

20th anniversary review of projects such as: genetic research of HS; study of obligation of x-raying for HD, ED; recommendations on nutrition

KBS – Impact of increased ration of HD/ED x-rays

Univ Bern – increased xrays from 34% to 42%; recommendation is to xray 43%

KBS – Tumor tissue samples

Worked to provide kits to owners for cancer samples to be sent to Dr Hadan

KBS – DM

Univ Bern – DM test done on all Swiss puppies born in 2021, DM status has improved, Breeding recommendations are being continued unchanged

KBS – C-section

Univ Padova – working to collect and analyze data on why c-sections are increasing

MBE – Breeding requirements

Breeding test for structure and temperament, HD (A-C), ED (0-1). DM is not required, and HS test not yet a common practice

BMDCA – Histio

Offer HS test at club events for subsidized price

Helped fund development of HSIMS, and trying to educate members about its use

Support for Univ Rennes work to identify markers in blood plasma to help diagnosis

BMDCA – Histio

Carol Lynn Fox is working to collect data for determining whether annual 2 week doses of doxycycline can reduce or eliminate the risk of HS

BMDCA – Health Testing

Identified Berner Recommended Testing and worked with BG to show BRT designation

DNA registration (which establishes parentage), HD, ED, eyes, heart, DM (1 & 2), and at least one from the following: vWD, Thyroid, HS

SSFS – Combat hereditary diseases and defects, HD/ED

HD C must mate with HD A or B; ED 1 must mate with ED 0

Breeders encouraged to use combinations with BLUP-index 101 or higher

SShK – Reproduction problems in female BMDs; dystocia, low mean litter size, stillborn, matings with no litter. Increasing age of both sire and female affected the outcome of unsuccessful matings. The litter size in the female was affected by age with larger litter size in younger bitches. The risk of CS (cesarian section) decreased with increasing parity and increased with increasing age.

SShK – Reproduction, 65% pregnancy rate. Semen from 65 dogs was studied, 37% had at least one testicle with abnormalities. Sperm motility was negatively associated with age. Percent of morphologically normal sperm was significantly lower in dogs with abnormal testicle consistency. Age was significantly associated with proximal droplets and detached head. Note: the mean semen quality of the BMD is lower than considered normal for dogs.

AFBS – working on HS, with the HSIMS the CxC breedings are no longer prohibited.

AFBS – Quality Charter is being redesigned, should be implemented by 2023. DM tests for both exons are requested, and ask that no at-risk puppies be produced. This may be a recommendation or a requirement, that has to be determined. For hips, only A and B are accepted.

VBHS – Liver shunts were studied, 1000 puppies were tested and only one case of liver shunt was found. The club has stopped financial support for the tests, but the club applauds breeders who continue to do the test on their own. The club will publish the results.

Information on planned future Health Projects/Health Initiatives

BG and BMDCA – Histio
MSU - Research for liquid biopsy for histio, blood sample as means of diagnosis
BG – DNA Repository
MSU – routine submissions halted, will collect new samples for focused studies
BMDCC – Code of Ethics
Now require specific tests and must be recorded in BG
BMDCGB – GDV
Working with Prof Dunning to determine scope of issue in Berners
DBSK – c-sections
Working to look into the frequency of caesarean sections
BMDC (NZ) – DNA testing
Working with the NZKC to access DNA testing via Massey University
VSSÖ – Renal insufficiency
Collecting information about this
CIABS – DM
Epidemiologic investigation to determine the prevalence
Evaluate the accuracy of new diagnostic techniques
KSSP – promote SH testing
BMDCA – gastro intestinal tract issues – IBD, IBS, PLE, lymphagiectasia
Working to find a researcher to partner with the club on better treatments
BMDCA – SAS
Working to find a researcher to find the genetic mutation for SAS in Berners
BMDCA – cleft palates
Collecting blood samples from affected litters and parents to send to VetGen in collaboration with Univ Bern on finding the genetic mutation for cleft palates
SSFS – Data collection
Collecting and analyzing information from birth and health questionnaires
Tabulate cause of death and diseases
Encourage breeders to use genetic tests and character tests
Keep the autoimmune disease list on
SSFS – Lifespan index
Update and develop lifespan index information
SSFS – Ideal Temperament Profile
In 2025 we plan to update the ideal temperament profile with new behavioral measurements
SShK – Continue the study on semen quality with genetic studies, and associates with different hormones.
SShK – Progesterone levels in bitches before and during pregnancy that includes BMDs and other breeds.
AFBS – Requesting that Antagene refine the B's for the HS test.
AFBS – working in the Health Commission on stomach twists – GDV.
AFBS – continue to work with the CNRS
AFBS – Dogs over the age of 7 with a C HS result are tracked every 3 months by U of Rennes. A blood test is used to see if HS can be detected before symptoms are seen.

Information on major health concerns in your club/country

Cancer – BMDCGB, BMDCC, DBSK, BMDC (NZ), VSSÖ, KSSP, KBS, MBE, BMDCA, SSFS, AFBS
- HS – BG, BMDCGB, VSSÖ, BMDCA, SSFS, SShK (HS test now recommended prior to mating), AFBS
- Lymphoma – BMDCI, BMDCA, SSFS
- Osteosarcoma – BMDCI
- Hemangiosarcoma – BMDCA
- Transitional cell carcinoma (bladder) – SSFS
- Lung cancer – SSFS

GI tract
- Bloat – BG, BMDCI, AFBS
- IBS – BG
- PICA - AFBS

SAS – BG
DM – BG
Reproductive issues – BG, SShK
- Fertility – BMDCC, DBSK, BMDC (NZ), BMDCA
- C-Sections – KBS
- Pyometra - BMDCA

Cleft palate – BG
AOD statistics – BMDCC
Longevity – BMDCC, BMDCI, BMDC (NZ), VSSÖ, KSSP, KBS, MBE, BMDCA, SSFS, AFBS
Temperament – BMDC (NZ), SSFS, AFBS
Renal insufficiency – VSSÖ, KBS
Health Data – CIABS
DNA testing (SH and DM) – CIABS
Veterinary resource shortages – BMDCC