

SIBERIAN HUSKY HEALTH FOUNDATION BREED HEALTH SURVEY RESULTS 2006

The SHHF is pleased to publish the final results of the first statistically valid health survey of the Siberian Husky. The purpose of this survey was to find possible emerging breed related health problems, so that concerns and breed problems can be addressed. During the years of 2005 and 2006, surveys were mailed out to members of the Siberian Husky Club of America along with area Siberian Husky breed clubs. The results and statistics were compiled by Dr. Margaret Slater DVM, PhD, Professor of Epidemiology at the College of Veterinary Medicine, Texas A&M University. Each survey was given identification numbers for complete anonymousness. Postcard reminders were sent out by the researchers to non-responders in May of 2006 and again in August of 2006. The people not responding were called in June 2006 and encouraged to return the survey as soon as possible. New copies of the survey were sent out in September 2006 to people that has misplaced the original survey. The survey closed at the end of the year.

A total of 735 surveys were mailed out and 66 surveys were returned specifying that the respondent no longer owned a Siberian Husky. The total number of surveys used for the data compilation was 481 which is only a moderately high response rate. Reasons given for not returning the survey included too time consuming, too many health problems, too many dogs to include, no health problems, and other unknown reasons. The survey included 3725 living and deceased Siberian Huskies.

According to the survey, the median number of years an individual owned a Siberian was 20 years. Most owners had four dogs, and 40 was the maximum number owned. Owners reported to be most concerned with cataracts, cancer, and epilepsy. The survey reported 2703 living and 1022 deceased dogs. The median age at time of death was 12 years for both males and females. The most common cause of death was cancer, old age, kidney disease, epilepsy, seizures, and gastrointestinal problems.

SURVEY RESULTS

The top ten most reported individual health problems were monorchids (retained testicle) (12%), arthritis (8.6%), juvenile cataracts (5.9%), old age or senile cataracts over 8 years of age (4.6%), idiopathic epilepsy (3.4%), seasonal allergies (2.9%), hypothyroidism (2.8%), umbilical hernias (2.7%), loose stool syndrome (2.6%), and malignant breast cancer (2.4%). The top temperament problem was shyness.

Differences in the sexes were found in three health problems using a two percent rule and chi-square calculations. Males were most likely to have juvenile cataracts whereas females were more likely to have malignant breast cancer.

Eye problems were the most reported health category. About 15% of the dogs included in the survey were considered to have some type of eye problem. The most identified problems were juvenile cataracts and cataracts over eight years of age. *Males were 1.5 times more likely to be diagnosed with juvenile cataracts than females.*

Cancer was reported in over 13% of Siberians. Malignant breast cancer was the most reported health problem affecting greater than two percent of the dogs. Lymphoma, hemangiosarcoma, liver cancer, mast cell tumors, and osteosarcoma were reported as the most common cancer types. Cancer was the number one cause of death in Siberian Husky dogs surveyed.

Bone and skeletal problems impacted more than 12% of the dogs surveyed with over nine percent having arthritis. Arthritis was the second most reported health problem with a median age of onset of ten years.

Temperament and behavioral problems affected 11% of Siberians. Shyness was the most reported affecting six percent of Siberians and dog to dog aggression was the second highest with more than three percent diagnosed.

Almost ten percent of the dogs were reported having skin and coat problems. The most common problem was seasonal allergies which affected three percent of each sex equally. In addition seasonal allergies were in the top ten problems reported by owners.

Neurological and muscular problems occurred in ten percent of Siberian Huskies. Idiopathic epilepsy had the highest percentage of dogs (3.4%) diagnosed with an average onset between two and three years of age. Other types of seizures were seen in approximately two percent of dogs with an average onset of six years of age. In addition to seizures, close to three percent of dogs had umbilical hernias which are one of the top ten most reported health problems.

Seven percent of the dogs were affected with gastrointestinal and mouth problems. Loose stool syndrome in puppies was the highest reported gastrointestinal problem occurring at a median age of two months and affecting nearly three percent of the dogs surveyed. Irritable bowel syndrome followed with approximately one percent of the dogs affected with an average onset of two years.

About five percent of the dogs were reported to have endocrine problems. The most common problem was hypothyroidism which occurred in three percent of the population surveyed. Four percent of the population surveyed had kidney and urinary problems. Urinary incontinence after spaying affected between one and two percent of the dogs. Kidney failure was the second most reported kidney and urinary problem affecting one percent of the dogs at an average age between eleven and twelve.

Almost one percent of the population of the dogs had heart and lung problems. Heart murmurs seemed to be the highest reported. Less than one percent was affected with

blood problems. Autoimmune hemolytic anemia was the most reported blood problem affecting only 8 of the 3725 dogs included in the survey.

Over 14% of the dogs in the survey had either monorchids or cryptorchids. Monorchids affected close to 12 % of the population.

Twenty-seven percent of the total dogs were bred at least once. Reproductive problems occurred more in females than in males. Almost 34% of the females bred were affected, while only four percent of the males were affected. The most common problems in the females included cesarean births (8%), difficulty whelping (5%), small litters (4%), failure to conceive (3%), and irregular heat cycles (3%). The most common problems in males were testicular atrophy and testicular cancer which affected one percent of the population bred. In the past five years, 1600 litters were reported and puppy problems occurred in 23% of the litters. Monorchids occurred in 11% of the litters and late descending testicles occurred in six percent of the litters.

GENERAL INFORMATION AND CHARTS

Table A-1: Response Rate Information

GENERAL INFORMATION	
Response Rate Information:	
Original Number of Surveys Mailed to the National Club	441
Surveys with Invalid Addresses	1
Returned Surveys But No Dogs	56
Returned Blank Surveys	1
Unusable Information	0
Answered Surveys	249
Response Rate	69%
Additional Number of Surveys Mailed to Regional Clubs	294
Surveys with Invalid Addresses	1
Returned Surveys But No Dogs	10
Returned Blank Surveys	1
Answered Surveys	166
Response Rate	60%
Total Completed Surveys (Number of Owners Included in Results)	481
Total Response Rate	65 %

Table A-2: General Information on Dogs

GENERAL INFORMATION			
Years Owned Siberian Huskies:			
Median		20	
Maximum		46	
Minimum		<1	
Number of SH's Currently Owned:			
Median		4	
Maximum		40	
Minimum		1	
Number of Living SH's Included in Survey:		Total	%
Male		1248	46.2%
Female		1455	53.8%
Total		2703	
Number of Deceased SH's Included in Survey:			
Male		442	43.3%
Female		580	56.8%
Total		1022	
Total # of Living & Deceased Dogs Included:			
Male		1690	45.4%
Female		2035	54.6%
Total		3725	

Table A-3: Owner Activities

Number of Owners with SH's Involved In:		Total	%
Pet Companion		353	73.4%
Conformation		300	62.4%
Obedience		177	36.8%
Sledding		167	34.7%
Therapy Dog		80	16.6%
Agility		65	13.5%
Pulling		21	4.4%
Tracking		15	3.1%
Other		49	10.2%

Table A-4: Owner Health Concerns

Number of Owners Concerned with These Health Problems:	Total	%
Cataracts	166	34.5%
Cancer	156	32.4%
Epilepsy/Seizure	130	27.0%
Eye Problems/Disease	106	22.0%
Hip Dysplasia/Hip Problems	65	13.5%
Temperament	57	11.9%
Cryptorchids/Monorchids	55	11.4%
Arthritis	38	7.9%
Thyroid Disease/Problems	37	7.7%
Hypothyroidism	37	7.7%

Table A-5: Ages of Living and Deceased Dogs

Age of Living Dogs		
	Male	Female
Median	5	6
Maximum	17	16.5
Minimum	<1mo.	<1 mo.

Age at Death of Dogs who Died Since 1999 (up until 2006)		
	Male	Female
Median	12	12
Maximum	17.5	19
Minimum	<1 yr.	<1 yr.

Table A-6: Causes of Death

Common Causes of Death		
Cancer	337	33.0%
Liver Cancer	35	
Hemangiosarcoma	16	
Lymphoma	16	
Other	271	
Old Age	214	20.9%
Unknown	46	4.5%
Kidney Disease/Problems	34	3.3%

Euthanized	31	3.0%
Epilepsy/Seizures/Grand Mal Seizures	30	2.9%
Gastrointestinal Problems	29	2.8%
Bloat	18	
IBD	5	
GME	2	
Gastric Torsion/Torsion	3	
unknown	1	
Stroke	27	2.6%
Heart Disease/Problems	22	2.2%
Accident	21	2.1%
Liver Disease/Problems	18	1.8%
Arthritis	15	1.5%
Diabetes	12	1.2%
Cushing's Disease	11	1.1%
Disc Problems	9	0.9%
Autoimmune Disease	7	0.7%
Autoimmune Hemolytic Anemia/Anemia	5	
Dementia	6	0.6%
Aneurism	5	0.5%
Abdominal Bleeding	4	0.4%
Dead on Arrival	4	0.4%
Leptospirosis	4	0.4%
Pyometra	4	0.4%
Complications with Surgery	3	0.3%
Encephalitis/Meningoencephalitis/Viral Encephalitis	3	0.3%
Infectious Diseases	3	0.3%
Intestinal Blockage	3	0.3%
Respiratory Problems/Disease	3	0.3%
Ruptured Spleen	3	0.3%
Temperament/Aggressive	3	0.3%
Blood Clot	2	0.2%
Downturn	2	0.2%
Heatstroke	2	0.2%
Loss of Mobility	2	0.2%
Obstruction from stone eating	2	0.2%
Poisoned	2	0.2%
Surgery Complications	2	0.2%
Valley Fever	2	0.2%
Vestibular Disease	2	0.2%
Anaphylactic Bee Sting	1	0.1%
Anemia from Pregnancy	1	0.1%
Bled to death from spay surgery	1	0.1%
Burst Anal Vein	1	0.1%
Choked	1	0.1%

C-Section	1	0.1%
Disoriented	1	0.1%
Ectopic Ureter	1	0.1%
Feeble	1	0.1%
Fertilizer	1	0.1%
Fibrosis of Lungs	1	0.1%
Fluid in Lungs	1	0.1%
General Deterioration and Elevated Liver Enzymes	1	0.1%
Genetic Disease	1	0.1%
Glaucoma - Related	1	0.1%
Gunshot	1	0.1%
Head Injury	1	0.1%
Immobile	1	0.1%
Lupus	1	0.1%
Megaesophagus	1	0.1%
Metabolic Issues	1	0.1%
Multiple Problems	1	0.1%
Neurological Disease	1	0.1%
Organ Failure	1	0.1%
Rear Falling	1	0.1%
Ruptured Uterus	1	0.1%
Sick	1	0.1%
Split Diaphragm	1	0.1%
Sudden Death	1	0.1%
Tear in Pulmonary Circulation	1	0.1%
Thyroid	1	0.1%
Toxemia	1	0.1%
Trauma	1	0.1%
Uterine Inflation	1	0.1%
Vocal Cord Paralysis	1	0.1%
Missing	62	6.1%

HEALTH PROBLEMS

Table B-1: Eye Problems

Eyes							
	Median Age	Male	% of all males	Female	% of all females	Total	%
Juvenile Cataracts	1.0	119	7.0%	102	5.0%	221	5.9%
Cataracts over 8yrs of age	10.0	76	4.5%	96	4.7%	172	4.6%
Progressive Retinal Atrophy	3.0	5	0.3%	5	0.3%	10	0.3%
Corneal Dystrophy	5.0	23	1.4%	58	2.9%	81	2.2%
Glaucoma	8.5	7	0.4%	7	0.3%	14	0.4%
Cholesterol Deposits of the Cornea	5.8	12	0.7%	21	1.0%	33	0.9%
Other:	-	17	1.0%	13	0.6%	30	0.8%
Blind		1		0		1	
Detached Retina		1		0		1	
Dry Eyes		1		0		1	
Entropion		0		1		1	
Eye Trauma-Corneal Scar		0		2		2	
Fatty Tissue Buildup		1		0		1	
Fungus at Corner of Eye		0		1		1	
Gonioscopy		0		1		1	
Horner's Syndrome		2		1		3	
Nuclear Sclerosis		1		0		1	
Nutritional Cataracts		1		2		3	
Optic Neuritis		0		1		1	
Pannus		4		1		5	
Persistent Pupillary Membrane		0		2		2	
Unspecified		2		1		3	
Total		259	15.3%	302	14.8%	561	15.1%

Table B-2: Cancer

Cancer Types						
	Male	%	Female	%	Total	%
Breast Cancer - Benign	2	0.1%	43	2.1%	45	1.2%
Breast Cancer - Malignant	2	0.1%	89	4.4%	91	2.4%
Cancer of the Spleen	19	1.1%	16	0.8%	35	0.9%
Lymphoma	17	1.0%	24	1.2%	41	1.1%
Mast Cell Tumor	26	1.5%	33	1.6%	59	1.6%
Osteosarcoma	9	0.5%	14	0.7%	23	0.6%

Pancreatic Cancer	2	0.1%	8	0.4%	10	0.3%
Prostate Cancer	15	0.9%	3	0.1%	18	0.5%
Liver Cancer	23	1.4%	40	2.0%	63	1.7%
Other:	49	2.9%	59	2.9%	108	2.9%
Abdominal Cancer	1		3		4	
Adrenal, Urethra	0		2		2	
Angiosarcoma on Left Jaw/Sarcoma of Mouth	1		1		2	
Apocrine Basaloid Ductular Adenocarcinoma	1		0		1	
Basal Cell Tumor/Carcinoma	1		1		2	
Bladder Cancer	2		1		3	
Brain Tumor/Cancer	5		8		13	
Cancer of the Neck	2		1		3	
Fatty Tumors/Lipomas	1		1		2	
Fibrosarcoma	1		2		3	
Gastrointestinal Cancer	4		1		5	
Heart Tumor/Cancer	4		2		6	
Hermangiopericytoma	0		1		1	
Kidney Cancer	2		0		2	
Large Tumor on Toe	1		0		1	
Leukemia	1		0		1	
Lower Leg Tumor	1		0		1	
Lung Tumors/Cancer	1		5		6	
Lymphate Carcinoma in Throat	1		0		1	
Multiple Endocrine Neoplasia	1		0		1	
Nasal Carcinoma	1		0		1	
Nasal Chondrosarcoma	0		1		1	
Nerve Sheath	1		1		2	
Ovarian Cancer	-		1		1	
Perianal/Anal Sac Cancer	2		1		3	
Sebaceous Carcinoma	0		1		1	
Sinus Tumor/Cancer	1		0		1	
Skin Cancer	1		2		3	
Stomach Cancer/Gastric Cancer	4		6		10	
Thyroid Cancer	1		2		3	
Transitional Cell Carcinoma	0		1		1	
Tumor on Cornea	1		0		1	
Tumor/Sarcoma in Chest Cavity	0		1		1	
Undiagnosed	0		1		1	
Unknown/Unspecified	6		6		12	
Uterine Cancer	-		2		2	
Venereal Tumors/Cancer	0		2		2	
Total	164	9.7%	329	16.2%	493	13.2%

Table B-3: Bone and Skeletal Problems

Bone or Skeletal							
	Age	Male	%	Female	%	Total	%
Arthritis	10	161	9.5%	161	7.9%	322	8.6%
Hip Dysplasia	-	12	0.7%	16	0.8%	28	0.8%
OCD	-	2	0.1%	0	0.0%	2	0.1%
Panosteitis	-	3	0.2%	4	0.2%	7	0.2%
Patellar Luxation	-	4	0.2%	13	0.6%	17	0.5%
HOD	-	0	0.0%	0	0.0%	0	0.0%
Ruptured Cruciate	-	24	1.4%	41	2.0%	65	1.7%
Elbow Dysplasia	-	0	0.0%	1	0.0%	1	0.0%
Other:	-	5	0.3%	8	0.4%	13	0.3%
Damage To Pastern Joint		1		0		1	
Discospondylitis		0		1		1	
No Use of Hind Legs		1		0		1	
Ruptured Achilles Tendon		0		1		1	
Spinal Deterioration		1		0		1	
Spinal Stenosis at Hip		0		1		1	
Spondylosis		2		2		4	
Stiff/Sore Neck		0		1		1	
Unspecified		0		2		2	
Total		211	12.5%	244	12.0%	455	12.2%

Table B-4: Temperament and Behavior Problems

Temperament/Behavior						
	Male	%	Female	%	Total	%
Aggressive to People	21	1.2%	9	0.4%	30	0.8%
Aggressive to Dogs	63	3.7%	65	3.2%	128	3.4%
Shy	93	5.5%	135	6.6%	228	6.1%
Other:	2	0.1%	11	0.5%	12	0.3%
Alzheimer's	1		0		1	
Anxiety	0		2		2	
Cautious with Men	0		1		1	
Dominating	0		1		1	
Fearful; Will Bite if Pushed to Fear	0		1		1	
Food Aggressive	0		1		1	
Good With People but Not Small Dogs, Cats, or Birds	0		1		1	

High Prey Instinct	0		2		2	
Panic Attacks	0		1		1	
Talk to People	0		1		1	
Total	178	10.5%	220	10.8%	398	10.7%

Temperament/Behavior						
	Male	%	Female	%	Total	%
Aggressive to People	21	1.2%	9	0.4%	30	0.8%
Aggressive to Dogs	63	3.7%	65	3.2%	128	3.4%
Shy	93	5.5%	135	6.6%	228	6.1%
Other:	2	0.1%	11	0.5%	12	0.3%
Alzheimer's	1		0		1	
Anxiety	0		2		2	
Cautious with Men	0		1		1	
Dominating	0		1		1	
Fearful; Will Bite if Pushed to Fear	0		1		1	
Food Aggressive	0		1		1	
Good With People but Not Small Dogs, Cats, or Birds	0		1		1	
High Prey Instinct	0		2		2	
Panic Attacks	0		1		1	
Talk to People	0		1		1	
Total	178	10.5%	220	10.8%	398	10.7%

Table B-5: Skin and Hair Problems

Skin & Hair						
	Male	%	Female	%	Total	%
Allergies - Food	50	3.0%	30	1.5%	80	2.2%
Allergies - Seasonal	55	3.3%	54	2.7%	109	2.9%
Demodex	22	1.3%	21	1.0%	43	1.2%
Pigment Abnormalities	9	0.5%	13	0.6%	22	0.6%
Seborrhea	4	0.2%	4	0.2%	8	0.2%
Uveodermatological Syndrome	2	0.1%	1	0.1%	3	0.1%
Pemphigus	2	0.1%	2	0.1%	4	0.1%
Discoid Lupus	1	0.1%	0	0.0%	1	0.0%
Zinc Deficiency	36	2.1%	27	1.3%	63	1.7%
Other:	23	1.4%	8	0.4%	31	0.8%

Acne	1		0		1	
Alopecia	1		0		1	
Allergic to Leather Collars	1		0		1	
Allergy to Shampoo	0		1		1	
Bad Coat/No Hair in Spots/Doesn't Grow Back	1		2		3	
Curly Coat	1		0		1	
Dry, Brittle Coat	1		0		1	
Eosinophilic Plaque-related to allergies	1		0		1	
Eosinophilic Granuloma	1		0		1	
Follicular Dystrophy/Follicular Dysplasia	1		1		2	
Hot Spots	7		2		9	
Nose Congestion and Bleeding	0		1		1	
Partial Deafness in Ears	1		0		1	
Possible Allergy on Foot/Wheezing	1		0		1	
Sarcoptic Mange	0		1		1	
Scabby Dermatitis, possible allergy	1		0		1	
Symmetric Lupoid Onychodystrophy	1		0		1	
Unknown Allergies	1		0		1	
Ear Infections	2		0		2	
Total	204	12.1%	160	7.9%	364	9.8%

Table B-6: Neurological and Muscular Problems

Neurological/Muscular							
	Age	Male	%	Female	%	Total	%
Idiopathic Epilepsy	2.5	47	2.8%	78	3.8%	125	3.4%
Other Seizures	6	37	2.2%	33	1.6%	70	1.9%
Disc Disease	-	22	1.3%	10	0.5%	32	0.9%
Myasthenia Gravis	-	0	0.0%	0	0.0%	0	0.0%
Laryngeal Paralysis	-	2	0.1%	3	0.2%	5	0.1%
Wobblers Syndrome	-	0	0.0%	0	0.0%	0	0.0%
Umbilical Hernia	-	53	3.1%	48	2.4%	101	2.7%
Inguinal Hernia	-	3	0.2%	1	0.1%	4	0.1%
Degenerative Myelopathy	-	0	0.0%	0	0.0%	0	0.0%
Other:	-	17	1.0%	4	0.2%	21	0.6%
Back Problems		5		2		7	
CDS		1		0		1	
Degenerative Lower Spinal Cord		1		0		1	
Deterioration of the Rear/Spine		2		1		1	

Fibrocartilaginous Embolism		1		0		1	
GME		2		0		2	
Lumbar Sacral Disease		1		0		1	
Lyme Disease		1		0		1	
Masticatory Myopathy		1		0		1	
Possible Cognitive Dysfunction, got neurotic as she aged		0		1		1	
Steroid Response Meningitis		1		0		1	
Vestibular Disease		1		0		1	
Total		181	10.7%	177	8.7%	358	9.6%

Table B-7: Gastrointestinal and Mouth Problems

Gastrointestinal/Mouth							
	Age	Male	%	Female	%	Total	%
Bloat	-	22	1.3%	23	1.1%	45	1.2%
Chronic Colitis	-	10	0.6%	2	0.1%	12	0.3%
Irritable Bowel Disease	2	29	1.7%	15	0.7%	44	1.2%
Loose Stool Syndrome in Puppies	0.2	57	3.4%	38	1.9%	95	2.6%
Overbites	-	18	1.1%	19	0.9%	37	1.0%
Underbites	-	9	0.5%	5	0.3%	14	0.4%
Other:	-	10	0.6%	8	0.4%	19	0.5%
Abdominal Hernia		1		0		1	
Biliary Disease		1		0		1	
Cracked Teeth		1		0		1	
Discolored Teeth		0		1		1	
Giardia		0		1		1	
Level Bite		5		3		8	
Retained front Baby Tooth		-		-		1	
Sensitive Digestive Systems		1		2		3	
Tooth Infection		0		1		1	
Wry Mouth		1		0		1	
Total		155	9.2%	110	5.4%	266	7.1%

Table B-8: Endocrine Problems

Endocrine						
	Male	%	Female	%	Total	%
Addison's Disease	1	0.1%	0	0.0%	1	0.0%
Cushing's Disease	14	0.8%	8	0.4%	22	0.6%

Diabetes Mellitus	7	0.4%	17	0.8%	24	0.6%
Hypothyroidism	57	3.4%	48	2.4%	105	2.8%
Chronic Active Hepatitis	1	0.1%	2	0.1%	3	0.1%
Fatty Liver Disease	2	0.1%	2	0.1%	4	0.1%
Cirrhosis of the Liver/Liver Failure	3	0.2%	1	0.1%	4	0.1%
Pancreatic Disease	3	0.2%	3	0.2%	6	0.2%
Other:	1	0.1%	4	0.2%	85	0.1%
Diabetes Insipidus	1		0		1	
Elevated Liver Enzymes	0		1		1	
Endocrine Receptor Problem	0		1		1	
Hypoglycemia	0		1		1	
Systemic Lupus	0		1		1	
Total	89	5.3%	85	4.2%	174	4.7%

Table B-9: Kidney and Urinary Tract Problems

Kidney/Urinary Tract							
	Age	Male	%	Female	%	Total	%
Bladder Stones	-	3	0.2%	8	0.4%	11	0.3%
Ectopic Ureter	-	2	0.1%	12	0.6%	14	0.4%
Urinary Incontinence after spaying	-	-	0.0%	53	2.6%	53	1.4%
Urinary Incontinence not spayed	-	-	0.0%	5	0.2%	5	0.1%
Urinary Incontinence	-	15	0.9%	0	0.0%	15	0.4%
Kidney Failure	11.3	23	1.4%	18	0.9%	41	1.1%
Kidney Stones	-	1	0.1%	3	0.1%	4	0.1%
Other:	-	8	0.5%	7	0.3%	15	0.4%
Abscesses on Prostate		1		-		1	
Bladder Infections		3		4		7	
Gall Stone		0		1		1	
One Diseased Kidney, Other was a Second Bladder		1		0		1	
Prolapsed Urethra		1		0		1	
Small Bladder		1		0		1	
Urinary Incontinence		15		0		15	
Uterus Infection		-		1		1	
Vaginal Stenosis		0		1		1	
Total		52	3.1%	106	5.2%	158	4.2%

Table C-3: Male Reproductive Problems

Male Reproductive Problems of Dogs Bred in Last 5 Years	Total	%
Abnormal Semen	8	0.5%
Lack of Libido	7	0.4%
Lack of Semen	9	0.5%
Testicular Atrophy	23	1.4%
Testicular Cancer	15	0.9%
Other:	5	0.3%
Can Not Tie	1	
Gave Female Pyometra	1	
Infection in Testicles	1	
Low Grade Infection	1	
Mycoplasma	1	
Total	67	4.0%

Table C-4: Number of Litters in the Past 5 Years

Number of Litters in the Past 5 Years:	Total
Number of Male litters	909
Number of Female Litters	691
Total	1600

Table C-5: Litter and Puppy Problems

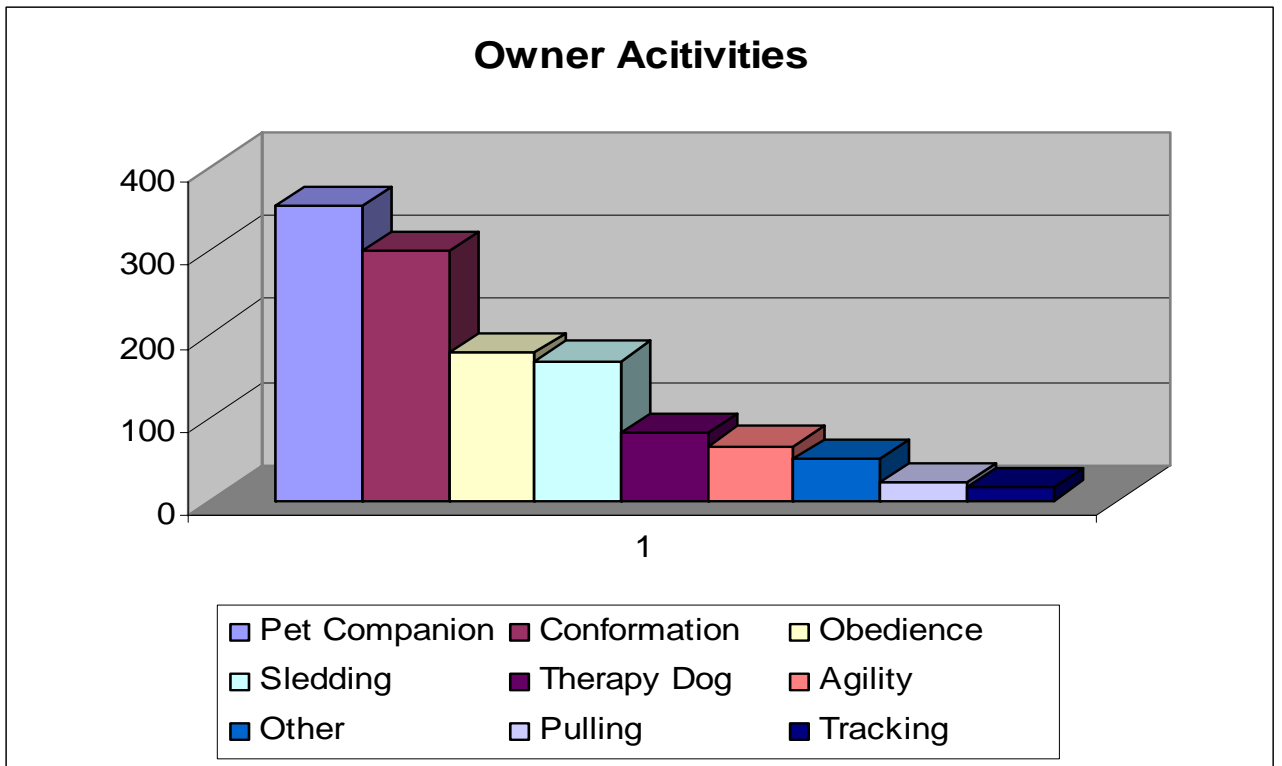
Puppy Problems	Age	# Litters	# Puppies	% of Total Litters
Cryptorchids	-	24	48	1.5%
Monorchids	-	176	187	11.0%
Late Descending Testicles	0.3	100	101	6.3%
Cleft Palate	-	9	9	0.6%
Hydrocephalus	-	23	0	1.4%
Incomplete Abdominal Closure	-	8	12	0.5%
Swimmers	-	7	8	0.4%
Other:	-	15	16	0.9%
Agenesis of Cerebellar Hemisphere		1	1	
Autoimmune Thyroiditis		1	3	

Bilateral Patellar Dislocation		1	2	
Epilepsy		1	1	
Failure to Thrive-ectopic ureter		1	1	
Fetal Monster		1	1	
Heart Murmur		1	-	
Hernia		1	1	
Idiopathic Epilepsy		1	1	
No Kidney Connection to Bladder		1	1	
Puppy Died, Started Decaying and Killed Entire Litter		1	-	
Severe Overbite		1	1	
Umbilical Hernia		2	2	
Weak Rear-took 12 wks to strengthen		1	1	
Total		362	381	22.6%

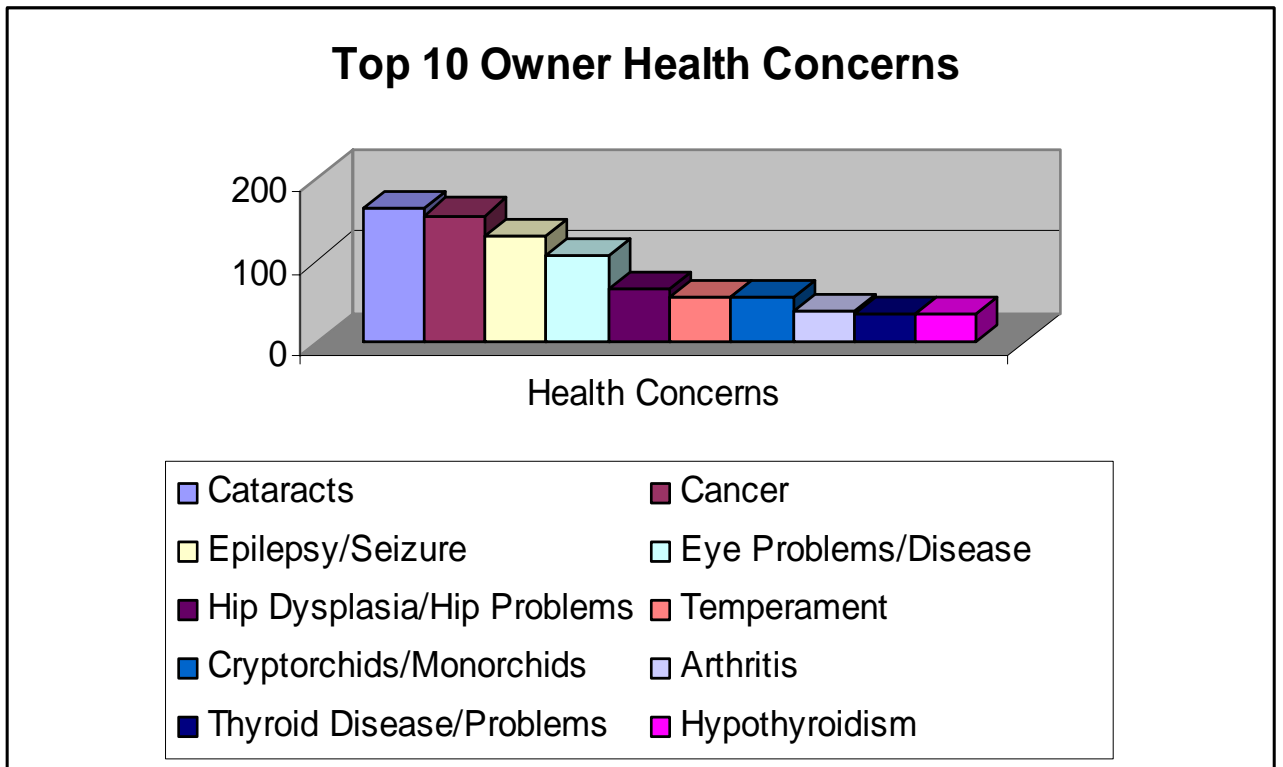
Appendix I

Graphs

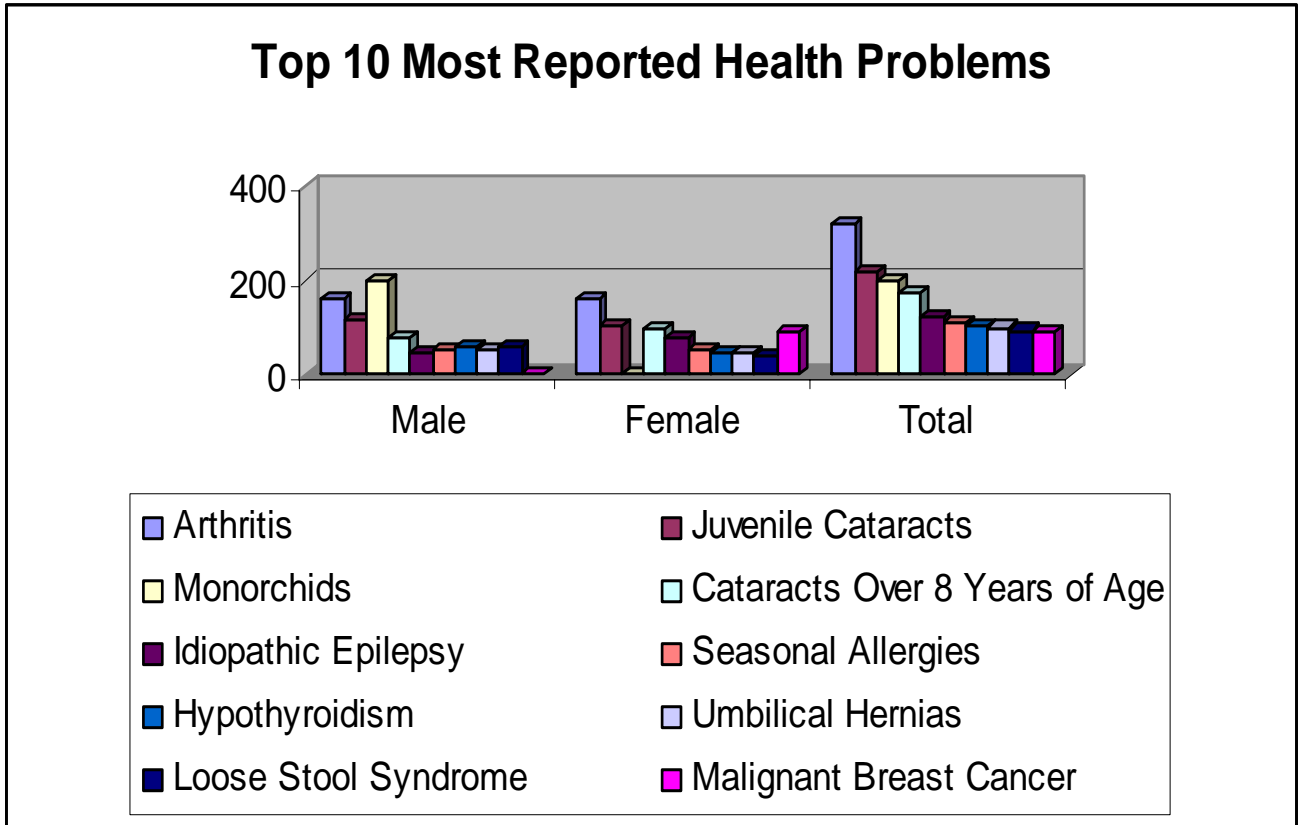
Graph A-1: Owner Activities



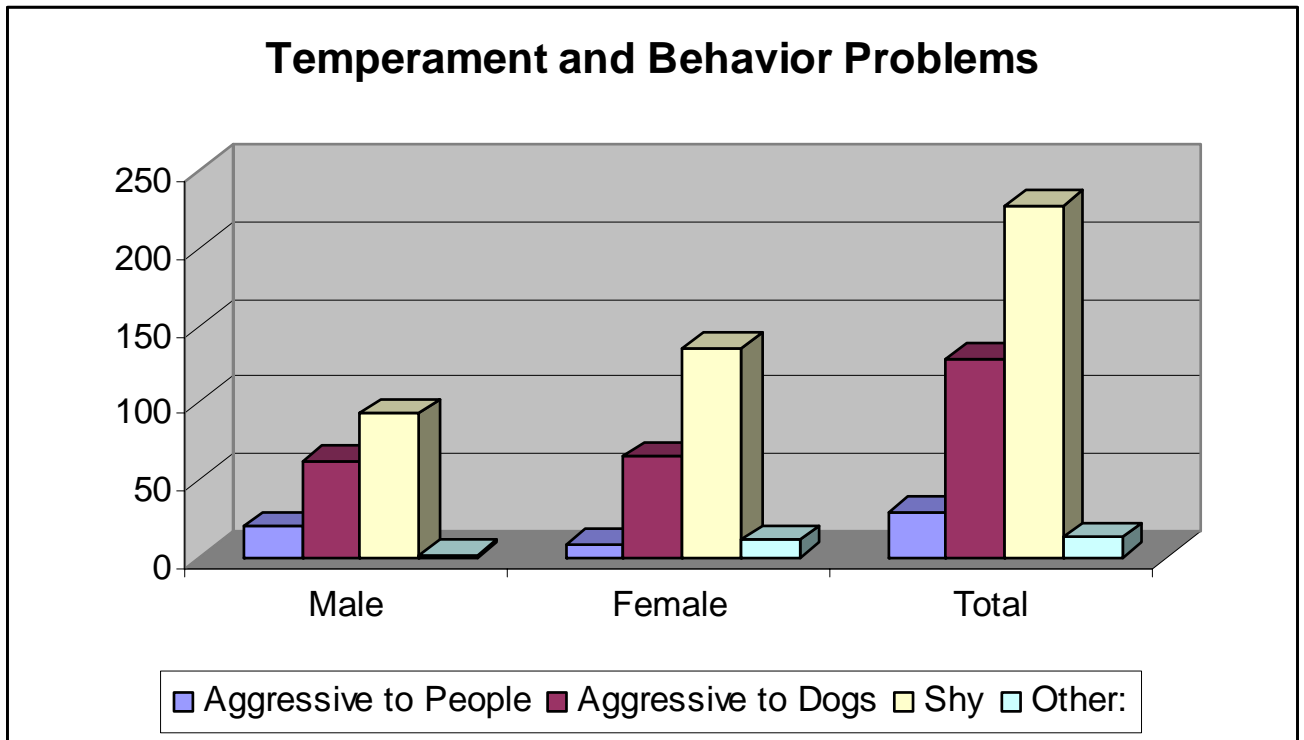
Graph A-2: Owner Concerns



Graph A-3: Health Problems



Graph A-4: Temperament and Behavioral Problems



2X2 Tables

Juvenile Cataracts			
	+	-	Total
Male	119	1571	1690
Female	102	1933	2035
Total	221	3504	3725
OR	1.44	CI	(1.08, 1.90)
		P-Value	0.009

Malignant Breast Cancer			
	+	-	Total
Male	2	1688	1690
Female	89	1946	2035
Total	91	3634	3725
OR	0.03	CI	(0.0, 0.11)
		P-Value	<0.0001

Benign Breast Cancer			
	+	-	Total
Male	2	1688	1690
Female	43	1992	2035
Total	45	3680	3725
OR	0.05	CI	(0.01, 0.23)
		P-Value	<0.0001