

Heartworm in Dogs in Atlantic Canada in 2002

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In mid-November 2002, 2445 questionnaires were sent to small and mixed animal clinics and to institutions in Canada to assess heartworm (HW) infection in dogs in 2002. On January 15, 2003, the questionnaire was sent again to clinics in Ontario which had not responded. In addition, in November 2002 questionnaires were sent to small and mixed animal clinics and to institutions in Ontario and Quebec to assess heartworm (HW) infection in cats in 2002. In other provinces, the cat questionnaire was sent to practices only involved with cats.

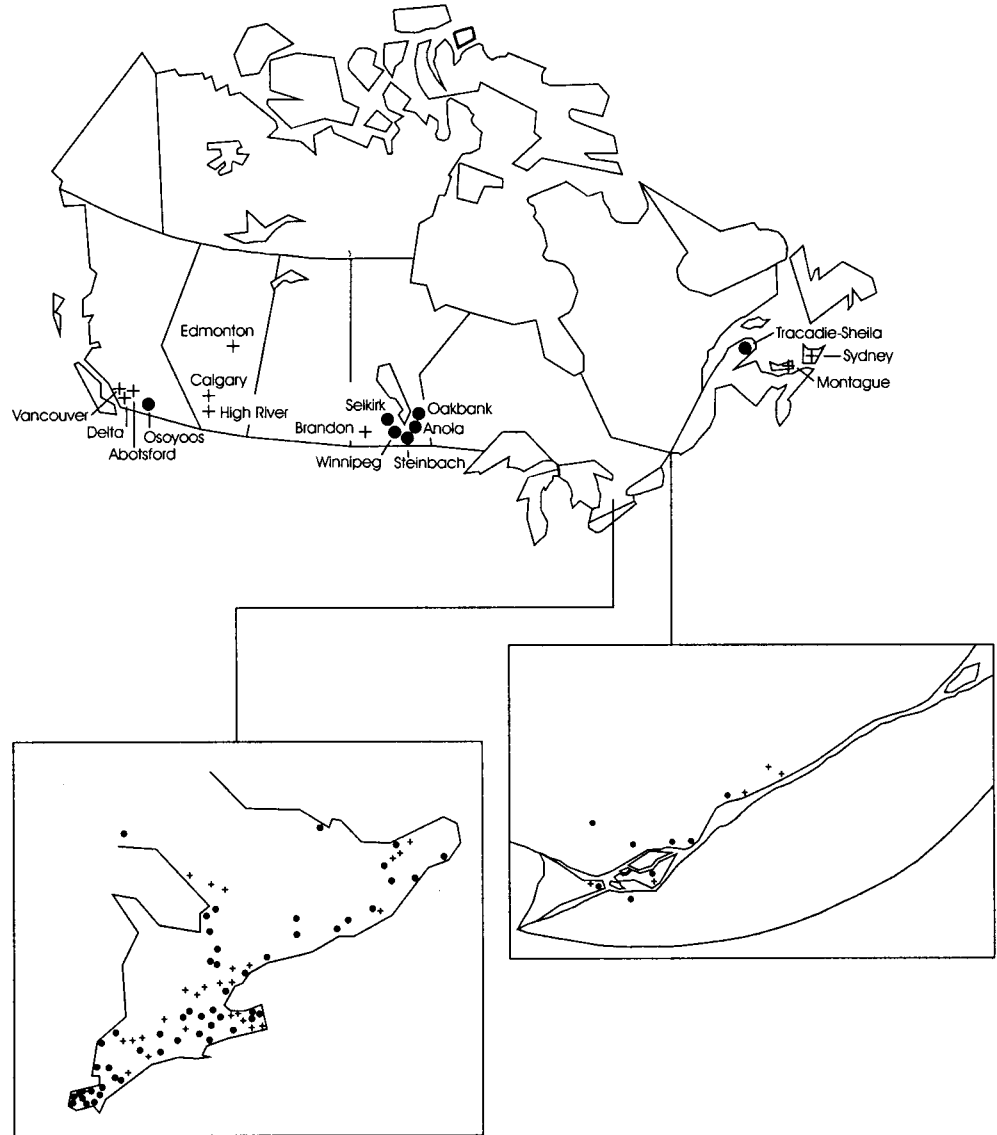
There were 1156 questionnaires returned for dogs for 2002, but 50 were not included in the analysis of the data because they were returned uncompleted with incorrect addresses or were improperly completed with the clinic's name missing and the data in the questionnaire could not be verified. The rate of response was 46.2% (45.8% in 2001).

There were 354 dogs reported with HW in Canada in 2002 (327 in 2001). Fewer dogs were blood tested in 2002 (317,182) than in 2001 (327,564) and an estimate of prevalence of HW in dogs in 2002 was 0.11% (0.10% in 2001). The major focus of infection in Canada continues to be in southern Ontario. There were 268 dogs reported with HW in that province. The three other foci are in southern Manitoba, southern Quebec and in the Okanagan Valley, British Columbia. In 2002, there were 21 dogs with HW in Quebec, 53 in Manitoba and 4 in British Columbia, but only one in the Okanagan Valley. The other 3 in BC had been outside Canada. There were also 4 dogs with HW in Alberta and these had been outside Canada and 4 in Atlantic Canada.

There were 616 questionnaires returned for cats in 2002; 320 from Ontario and 296 from Quebec. Most of the questionnaires had little information for cats. A total of 211 cats were tested (131 in 2001); 193 in Ontario and 8 in Quebec. Two cats were reported with HW in Ontario. For further details on these cats see the section below on Cats.

The findings in 2002 for Atlantic Canada are presented in one figure and two tables and a few comments about these should be made.

1. In 2002, 152 questionnaires were sent out and at present 72 have been returned, but 8 were rejected for reasons indicated above. The rate of response was 44.4% (49.3% in 2001). There were 28



+ Areas with dogs which had been outside of Canada and presumed infected before returning or with dogs whose movements were unknown.

● Areas with dogs some of which had never left.

questionnaires from Nova Scotia (41.2% response), 25 from New Brunswick (49.0% response), 6 from Prince Edward Island (46.1% response) and 5 from Newfoundland (41.7% response).

2. There were 4 dogs diagnosed with HW; one in Sydney, NS, 2 in Tracadie-Sheila, NB, and one in Montague, PEI. The dogs in NB had never left that province and had been on a HW preventive in 2001. The

dogs in NS and PEI had come from the USA and Bermuda respectively and were not on a HW preventive in 2001. The dog from Bermuda had been diagnosed with HW in Bermuda, was treated there and was certified negative after treatment before coming to Canada.

3. There were 4961 dogs tested in 2002 (5082 in 2001).

CATS. There were no questionnaires returned from Atlantic Canada. There were 2 cats with HW in Canada, both in Ontario. The remainder of this section formed part of the report on cats sent to practices in Ontario.

In Ontario, two cats were diagnosed with HW in 2002 (1 in 2001) and both had never left the area where the diagnosis was made. One cat (Wallaceburg) is a Domestic Short Hair female, spayed, indoor/outdoor, with a history of an occasional cough starting in May 2001. The cat was tested in August 2002 (blood sent to Vitatech) and found Ag+. Client declined radiographic analysis. The cat returned to the clinic in October 2002 and appeared to be doing fine. The other cat (Chatham) was a Himalayan 8½ year old neutered male, mainly indoors and appeared normal to the owner who, in December 2002, took the cat for a drive. The cat was upset in the car, started panting and foaming at the mouth, then collapsed, went cyanotic and was dead on arrival at the clinic. On necropsy, there were no gross abnormalities in the lungs, liver or heart and a single worm was found in a lobar branch of the pulmonary artery.

I had indicated previously that in highly endemic HW areas in several countries cats are being reported with HW. Six cats with HW in 1998, 2 in 2000, 1 in 2001, 2 in 2002 and a few reported in previous years is significant for Ontario, but HW in cats in Ontario must still be regarded as a rare occurrence. But we need to be vigilant.

Recommendations for Testing, Preventive Medications, Treatment for Dogs and Cats

For a review of recommendations I made previously and those of the American Heartworm Society see list of references below.

Acknowledgements

Your interest in the survey and your comments were appreciated. I believe the information derived from the surveys can be of assistance when making decisions with your clients on testing for HW and use of preventive medications.

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Table 1. 2002 Heartworm Questionnaire Results for Atlantic Canada

1. What time of year are most dogs tested for HW: %
Spring 95 Summer 19 Fall 0 Winter 0

2. Identify below the No. of dogs in **2002** that:
1) were TESTED for HW; microfilariae (Mf), antigen (Ag)
2) had a positive test and were DIAGNOSED with HW.

	No. of Dogs in 2002				
	Tested	Positive			
Tested ONLY for Mf	413 (8%)	0 (%)			
Tested ONLY for Ag	4,534 (91%)	4 (100%)			
Tested for BOTH Mf & Ag	14 (0.3%)	0 (%)	---> No. Mf+	0	No. Ag+ 0
Total	4961	4			

3. Number of dogs with HW diagnosed Only at Necropsy in **2002**. 0
Total No. of Dogs with HW in **2002** (No. in Q2 and No. in Q3). 4

Answer Questions 4 through 11 for dogs diagnosed with HW in **2002**.
Give No. of dogs as requested for the several questions.

4. Travel History:

Six months or more prior to diagnosis was outside of Canada	1	(25%)
Six months or more prior to diagnosis was in another province	0	(0%)
Never left your area	2	(50%)
Visited endemic areas if your area is not known to be endemic	1	(25%)
Movement unknown	0	(0%)

For Questions 5 through 8 give the number of dogs with HW according to the classifications described. (The numbers were converted to frequencies where most frequent = 1).

5. Domicile of Dogs: City 6. Location of Domicile: Primarily indoors 1
Suburb 2 Primarily outdoors
Rural 1 Unknown 2
Unknown 2

7. Age of Dog: Less than 1 year 8. Principal activity of dog: Companion dog 1
1-3 years 1 Show dog
Greater than 3 years 1 Hunting dog
Age unknown Farm dog
Unknown

9. Dogs with clinical signs of HW: 2 (50%)

10. Dogs known to have HW prior to testing positive in **2002**: 0

11. Dogs on preventive medication in **2002**: 0

12. Do you recommend a preventive program for your area? YES 46 (71.9%)

13. No. of dogs TESTED in **2002** and were on preventive medication in **2001**
(No. should not be greater than total No. tested and shown in Q.2).
Give approximate No. if precise No. unknown. 2,684

14. Total No. of dogs on preventive medication in **2002**.
Give approximate No. if precise No. unknown. 20,576

15. No. of cats and other animals with HW in **2002**: Specify animal: _____ 0

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American Heartworm Society 2002 Guidelines for the Diagnosis, Prevention and Management of Heartworm Infection in Cats. See www.heartwormsociety.org.

Table 2: Number of Dogs Tested For Heartworm in 2002 (number in brackets represents number of clinics).

Area	Total	No Medication in 2001	Area	Total	No Medication in 2001	Area	Total	No Medication in 2001
NOVA SCOTIA			NEW BRUNSWICK			PRINCE EDWARD ISLAND		
Amherst (1)	80	20	Bathurst (2)	163	53	Charlottetown (2)	27	13
Antigonish (1)	18	0	Dieppe (1)	50	45	Kensington (1)	14	8
Baddeck (1)	15	1	Fredericton (2)	70	41	Montague (1)	8	8
Bedford (1)	102	69	Grand Falls (1)	30	10	Stratford (1)	24	24
Bridgewater (1)	110	58	Miramichi (2)	354	212	Summerside (1)	10	4
Dartmouth (5)	246	130	Moncton (4)	127	55	P.E.I. Total: (6)	83	57
Digby (1)	55	42	Ocomocto (1)	143	68			
Halifax (3)	816	122	Richibucto (1)	31	30	NEWFOUNDLAND		
Kentville (1)	305	80	Riverview (1)	72	72	Bay Roberts (1)	5	5
Lawrencetown (1)	26	0	Sackville (1)	17	14	Corner Brook (1)	35	30
Lower Sackville (2)	98	98	Saint John (3)	140	80	Gander (1)	2	0
Middleton (1)	213	38	Smithfield (1)	12	0	Mt. Pearl (1)	76	54
New Glasgow (1)	25	25	St. Andrews (1)	85	29	St. John's (1)	8	4
New Minas (1)	239	0	St. Jacques (1)	13	9	Newfoundland Total: (5)	126	93
Porters Lake (1)	32	4	St. Stephen (1)	95	15			
Shubenacadie (1)	59	1	Tracadie-Sheila (1)	130	115	ATLANTIC CANADA		
Sydney (1)	275	125	Upper Kingsclear (1)	197	97	TOTAL: (64)	4961	1992
Truro (2)	179	84	N.B. Total: (25)	1729	945			
Wolfville (1)	30	0						
Yarmouth (1)	100	0						
N.S. Total: (28)	3023	897						

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