

SUPPLEMENTAL INFORMATION

SUPPLEMENT 1: Sampling type and schedule

Table 1. Type of sampling (drag, small mammal, bird, hare, coyote) that occurred during each month and year on North Manitou Island (NMI) and South Manitou Island (SMI). The black shading illustrates drag sampling with the distance sampled (m²) indicated in the corresponding box; the gray indicates small mammal trapping; the dots indicate bird mist-netting; the vertical lines indicate hare trapping; and the black star indicates coyote trapping. When sampling was performed twice within a given month, “2” is written on that month/year. Note: Every year, the sampling procedure for each type of sampling remained consistent and as described in the Methods section.

		NMI																																							
		April				May				June				July				August				September				October				November											
2011										3000								2750												800				3000							
2012	10561					1450				6000	2			6000	2			3000				4820	2			1350								2685							
2013						5250				2500																															
2014						3000				3000				3000				3000				3080												3000							
2015																																		3000							

		SMI																																							
		April				May				June				July				August				September				October				November											
2011										2750				4150								3000																			
2012	3000					6000				6000	2			6000	2			3000				6100	2			1350															
2013										2500																															
2014						3000				3000				3000				3000				3000				3000				3000								★			
2015																																		3000							



SUPPLEMENT 2: Additional pathogen detection results

In 2014, all of the ticks attached to mammals and questing ticks were tested at the CDC (and not at MSU), at which time they not only tested the ticks for *B. burgdorferi*, but also for *Anaplasma phagocytophilum* and *Babesia microti*. On NMI, 20 nymphs (4.3%) and 10 larval batches (8.3%) removed from small mammals were infected with both *Anaplasma phagocytophilum* and *B. burgdorferi*. On SMI, one larval batch (5.3%), which was removed from an eastern chipmunk, was co-infected with *Anaplasma phagocytophilum* and *B. burgdorferi*. One adult blacklegged tick from NMI was co-infected with *Anaplasma phagocytophilum* and *B. burgdorferi*. No ticks were infected with *Babesia microti* from either island.

SUPPLEMENT 3: Infection prevalence of ticks removed from mammals**Table 2. Infection prevalence of *I. scapularis* larvae (a) and nymphs (b) removed from captured white-footed mice (WFMO) and eastern chipmunks (EACH) on NMI and SMI in June from 2011-2014. The total number of ticks tested is indicated in parentheses.**

a)	WFMO		EACH	
	NMI	SMI	NMI	SMI
2011	7.1% (14)	0.0% (1)	18.9% (37)	0.0% (1)
2012	18.2% (11)	0.0% (3)	62.5% (8)	0.0% (3)
2013	71.4% (7)	20.0% (5)	72.9% (70)	0.0% (3)
2014	71.4% (7)	N/A (0)	52.2% (69)	66.7% (3)

b)	WFMO		EACH	
	NMI	SMI	NMI	SMI
2011	23.1% (13)	0.0% (1)	20.0% (30)	N/A (0)
2012	N/A (0)	0.0% (1)	25.0% (4)	0.0% (1)
2013	100% (3)	0.0% (1)	70.4% (162)	25.0% (4)
2014	100% (8)	N/A (0)	73.1% (275)	42.4% (33)

SUPPLEMENT 4: Bird species captured on SMI in 2014

In 2014, the following species of birds were captured on South Manitou Island: American redstart (*Setophaga ruticilla*), American robin (*Turdus migratorius*), American tree sparrow (*Spizella arborea*), black-capped chickadee (*Poecile atricapillus*), brown creeper (*Certhia americana*), cedar waxwing (*Bombycilla cedrorum*), chipping sparrow (*Spizella passerine*), cape may warbler (*Setophaga tigrine*), dark-eyed junco (*Junco hyemalis*), field sparrow (*Spizella pusilla*), golden-crowned kinglet (*Regulus satrapa*), gray catbird (*Dumetella carolinensis*), hermit thrush (*Catharus guttatus*), myrtle warbler (*Setophaga coronate*), Nashville warbler (*Leiothlypis ruficapilla*), northern waterthrush (*Parkesia noveboracensis*), orange-crowned warbler (*Vermivora celata*), ovenbird (*Seiurus aurocapilla*), pine siskin (*Spinus pinus*), purple finch (*Haemorhous purpureus*), ruby-crowned kinglet (*Regulus calendula*), red-eyed vireo (*Vireo olivaceus*), white-crowned sparrow (*Zonotrichia leucophrys*), winter wren (*Troglodytes hiemalis*), western palm warbler (*Setophaga palmarum*), and yellow-rumped warbler (*Setophaga coronate*).