



# Vermont Forest Health



## Sugar Maple Tree Health

### *North American Maple Project Results*

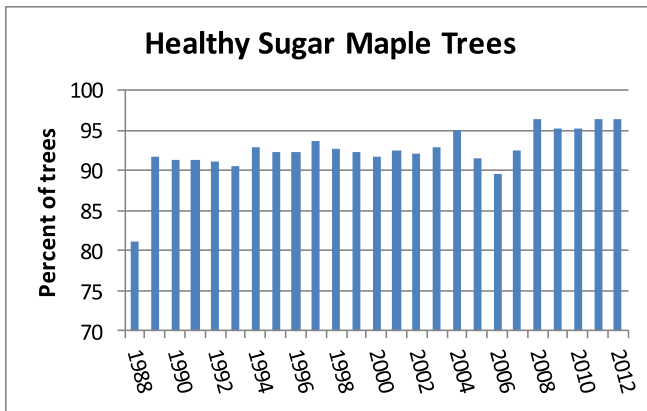
Department of Forests, Parks, & Recreation

June 2013

[vtforest.com](http://vtforest.com)

Since 1988, Vermont forestry staff have recorded sugar maple health trends on plots established under the North American Maple Project. Currently we measure tree condition and forest health at 30 sites across Vermont on around 2,000 trees. Statewide results are summarized below. Individual site results are also included for your information, but are not intended to represent the health of your entire woodlot.

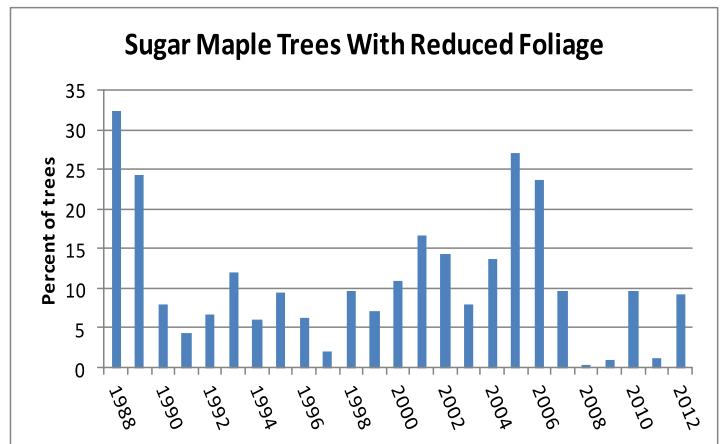
## Statewide Results For 2012



Over 95% of sugar maples on monitoring plots were rated as healthy with less than 15% dieback, as has been the case for the past 4 years.

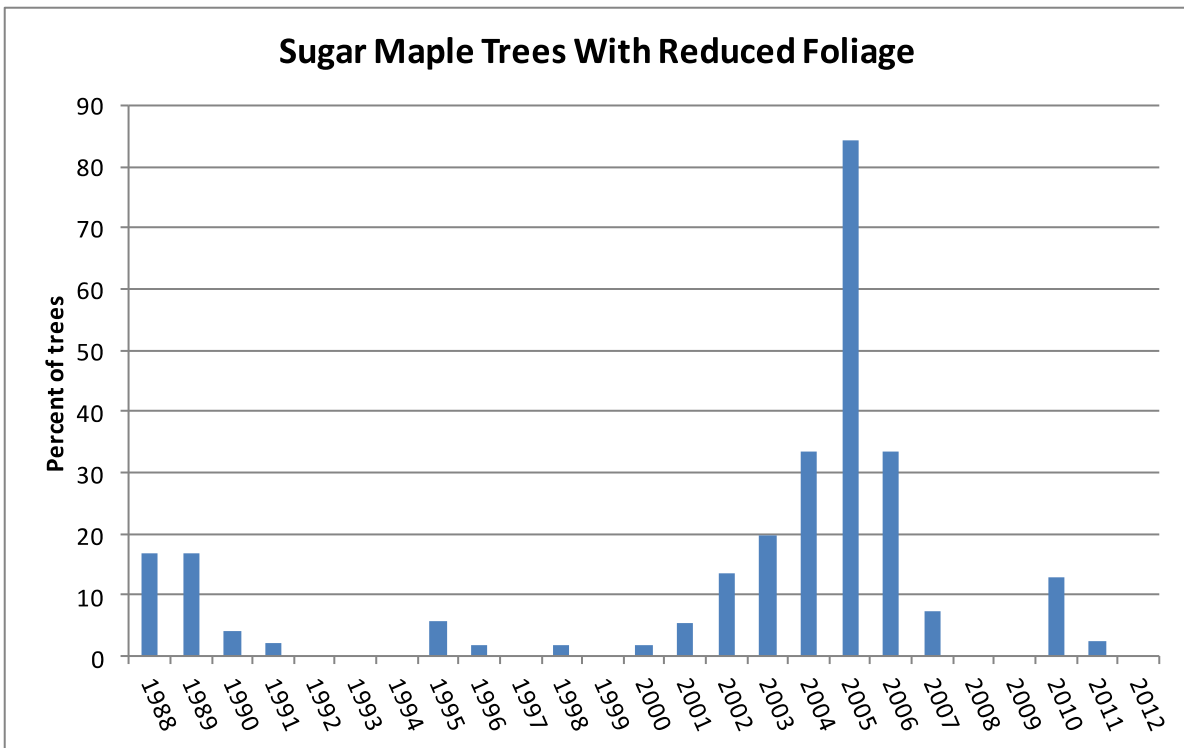
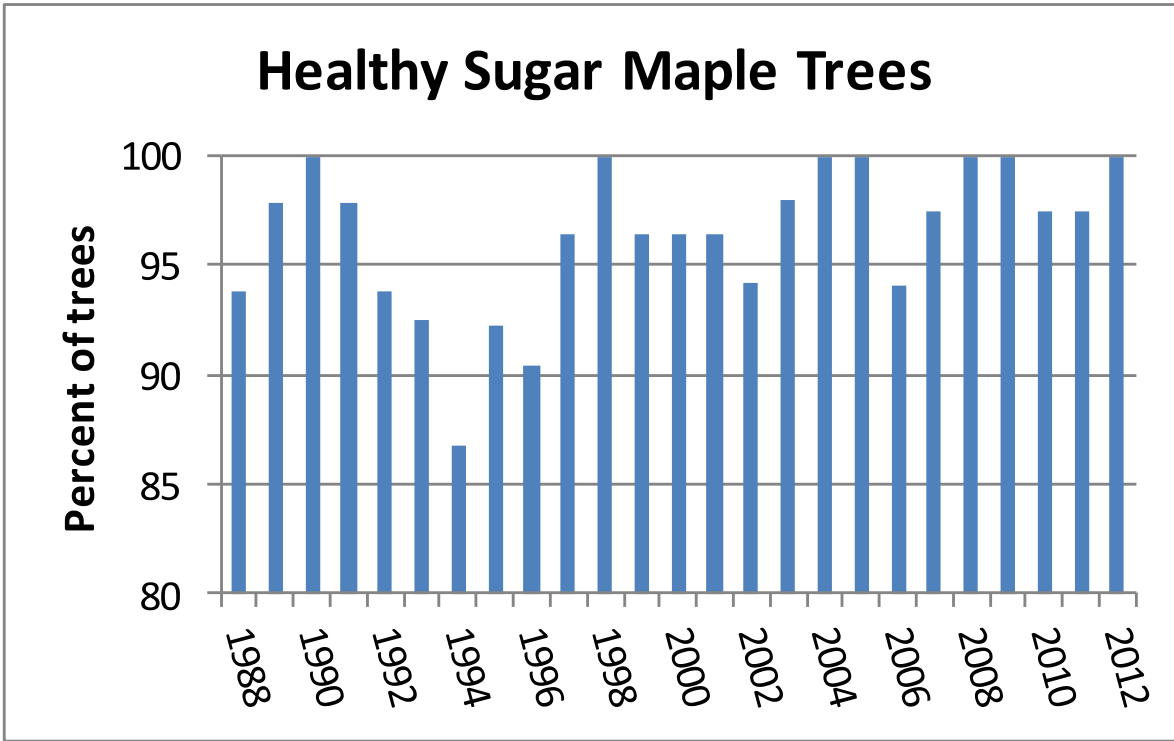
Number of new dead trees was above average at 1.4% and was evenly distributed across the state.

Current year foliage was damaged by various factors, and nearly half the sugar maple trees had some form of defoliation in 2012. Significant reduction in foliage (>25% foliage transparency) was recorded on 10% of trees. Factors contributing to defoliation (frost, anthracnose, pear thrips, Bruce spanworm and Septoria leaf spot) varied across sites.



# Site 15 Rupert SB

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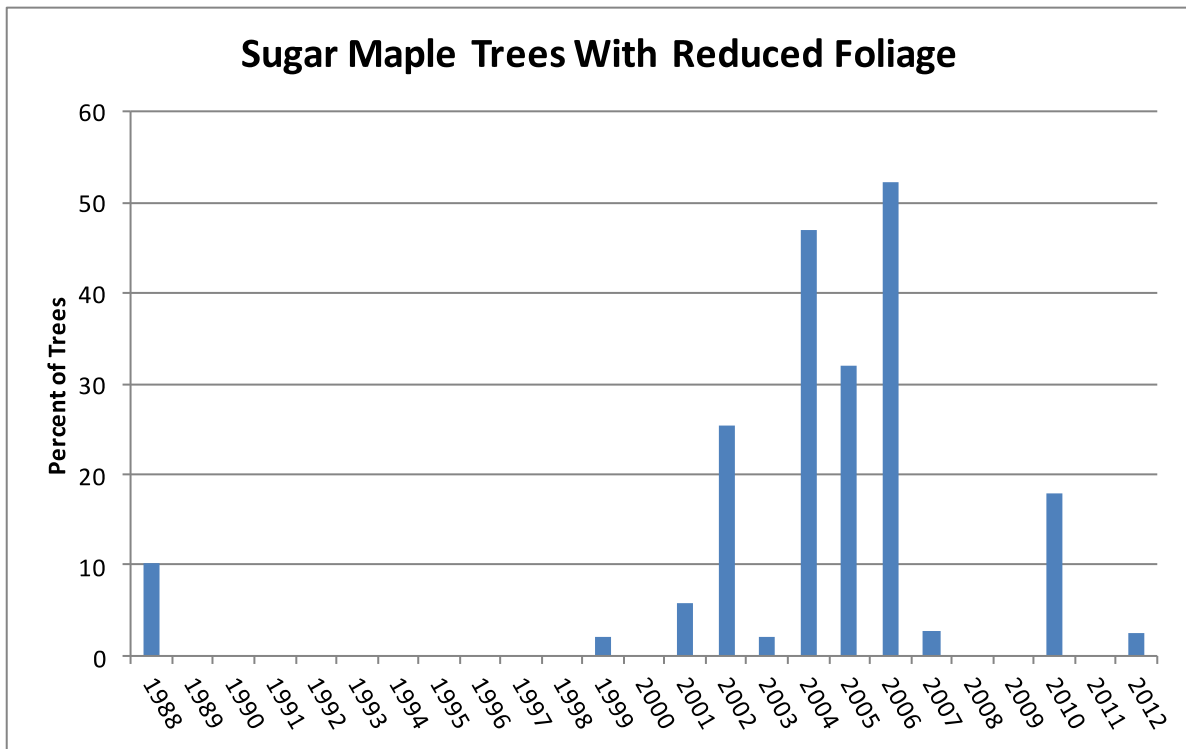
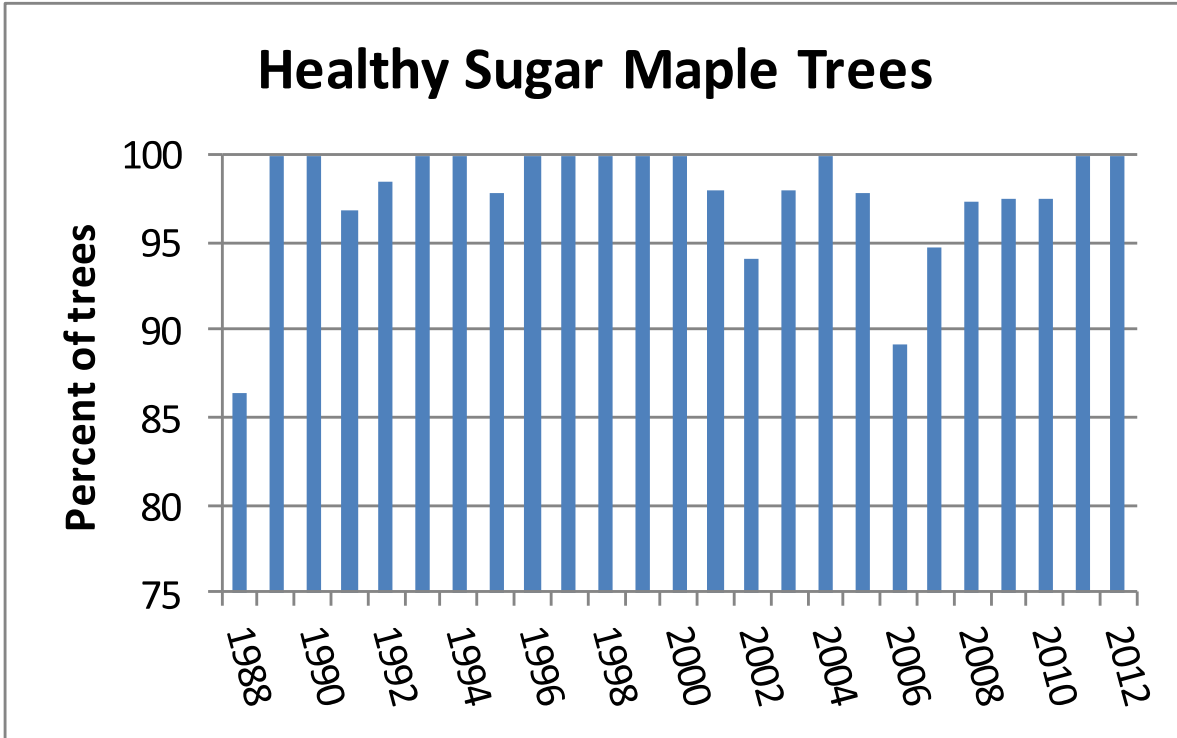


**Sugar Maple Monitoring Plot Summary 1988-2012**  
**Site 15**

Tree Health Summary	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percent of canopy sugar maples healthy	93.8	97.9	100.0	97.9	93.8	92.5	86.8	92.3	90.4	96.4	100.0	96.4	96.4	96.4	94.2	98.0	100.0	100.0	94.1	97.5	100.0	100.0	97.4	97.4	100.0
Percent of canopy sugar maples with thin foliage	16.7	16.7	4.2	2.1	0.0	0.0	0.0	5.8	1.9	0.0	1.8	0.0	1.8	5.5	13.5	19.6	33.3	84.3	33.3	7.5	0.0	0.0	12.8	2.6	0.0
Average dieback of canopy sugar maples	9.0	5.2	3.9	6.0	6.9	7.2	9.4	8.1	7.6	7.4	5.4	6.5	8.4	7.2	6.6	4.7	5.3	5.8	9.3	7.8	6.1	5.4	7.9	6.8	5.6
Sugar maple tree mortality (% of live trees)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	5.5	1.9	0.0	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
<b>Additional Tree and Plot Results</b>																									
Number of trees (4" diameter and greater)	88	88	88	86	84	84	84	81	80	79	78	78	77	77	67	66	66	66	63	63	60	61	60	60	60
Number sugar maples	81	81	81	79	78	78	78	75	74	73	72	72	71	71	64	65	65	65	62	62	60	60	59	59	59
Number canopy sugar maples	48	48	48	48	48	53	53	52	52	55	55	55	55	55	52	51	51	51	51	40	40	40	39	39	39
Abundance of sugar maple (% of trees)	94.1					96.4				95.2					96.3					97.6					97.5
Sugar maple tree diameter (average)	13.6					13.3				13.3					13.2					15.4					15.9
Sugar maple saplings per acre (saplings to 4" diameter)						0	152				203	203	203	0						203					
Sugar maple seedlings per acre (to 3' tall)						5420	14032				37690	24316	26342	8511						0					
Sugar maple defoliators and stressors							Frost damage	Wind								Bruce spanworm	Forest tent caterpillar	Forest tent caterpillar: Invasive plant: honeysuckle	Forest tent caterpillar	Wind	Bruce spanworm		Frost damage		
Average percent defoliation	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	30.0	0.0	3.0	0.0	1.0	31.0	34.0	41.0	44.0	90.0	4.0	1.0	0.0	0.0	0.0	0.0

# Site 18 Rupert NSB

Merck Forest and Farmland Center



Sugar Maple Monitoring Plot Summary 1988-2012  
SITE 18

Tree Health Summary	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Percent of canopy sugar maples healthy	86.4	100.0	100.0	96.8	98.4	100.0	100.0	97.8	100.0	100.0	100.0	100.0	100.0	98.0	94.1	98.0	100.0	97.9	89.1	94.7	97.4	97.4	97.4	100.0	100.0	
Percent of canopy sugar maples with thin foliage	10.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	5.9	25.5	2.0	47.1	31.9	52.2	2.6	0.0	0.0	17.9	0.0	2.6	
Average dieback of canopy sugar maples	10.7	2.7	2.0	5.5	5.7	5.0	5.0	5.6	5.9	5.5	5.6	5.8	5.5	6.1	7.0	6.1	5.3	5.7	11.7	6.7	9.2	5.5	8.8	6.7	5.6	
Sugar maple tree mortality (% of live trees)	0.0	0.0	0.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.8	2.1	0.0	0.0	0.0	0.0	0.0	0.0	
<b>Additional Tree and Plot Results</b>																										
Number of trees (4" diameter and greater)	99	107	107	107	106	107	100	100	100	98	102	101	102	102	102	101	98	86	84	85	81	83	82	80	79	
Number sugar maples	79	83	83	84	83	84	78	78	78	78	82	81	82	82	82	81	80	74	72	73	70	73	72	70	69	
Number canopy sugar maples	59	62	62	63	63	50	45	45	45	50	51	50	51	51	51	51	51	47	46	38	38	39	39	39	39	
Abundance of sugar maple (% of trees)	76.7					72.5				74.6					75.0					80.9					84.8	
Sugar maple tree diameter (average)	9.3					10.8				11.1					11.0					12.8					13.3	
Sugar maple saplings per acre (saplings to 4" diameter)						456	557				203	811	608	405						0						
Sugar maple seedlings per acre (to 3' tall)						2685	3394				44782	41337	40122	9119						2026						
Sugar maple defoliators and stressors							Frost damage					Maple leaf cutter														
Average percent defoliation	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	26.0	1.0	1.0	15.0	30.0	40.0	34.0	88.0	29.0	2.0	0.0	1.0	0.0	2.0	

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This valuable monitoring program would not be possible without the generous support of participating landowners. Thank you.

<b>For more information, contact the NAMP Program Coordinator at 802-879-5691 or local staff at:</b>	Windsor & Windham Counties..... Bennington & Rutland Counties..... Addison, Chittenden, Franklin & Grand Isle Counties..... Lamoille, Orange & Washington Counties ..... Caledonia, Orleans & Essex Counties.....	Springfield (802) 885-8822 Rutland (802) 786-3856 Essex Junction 802) 879-5685 Barre (802) 476-0178 St. Johnsbury (802) 751-0116
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