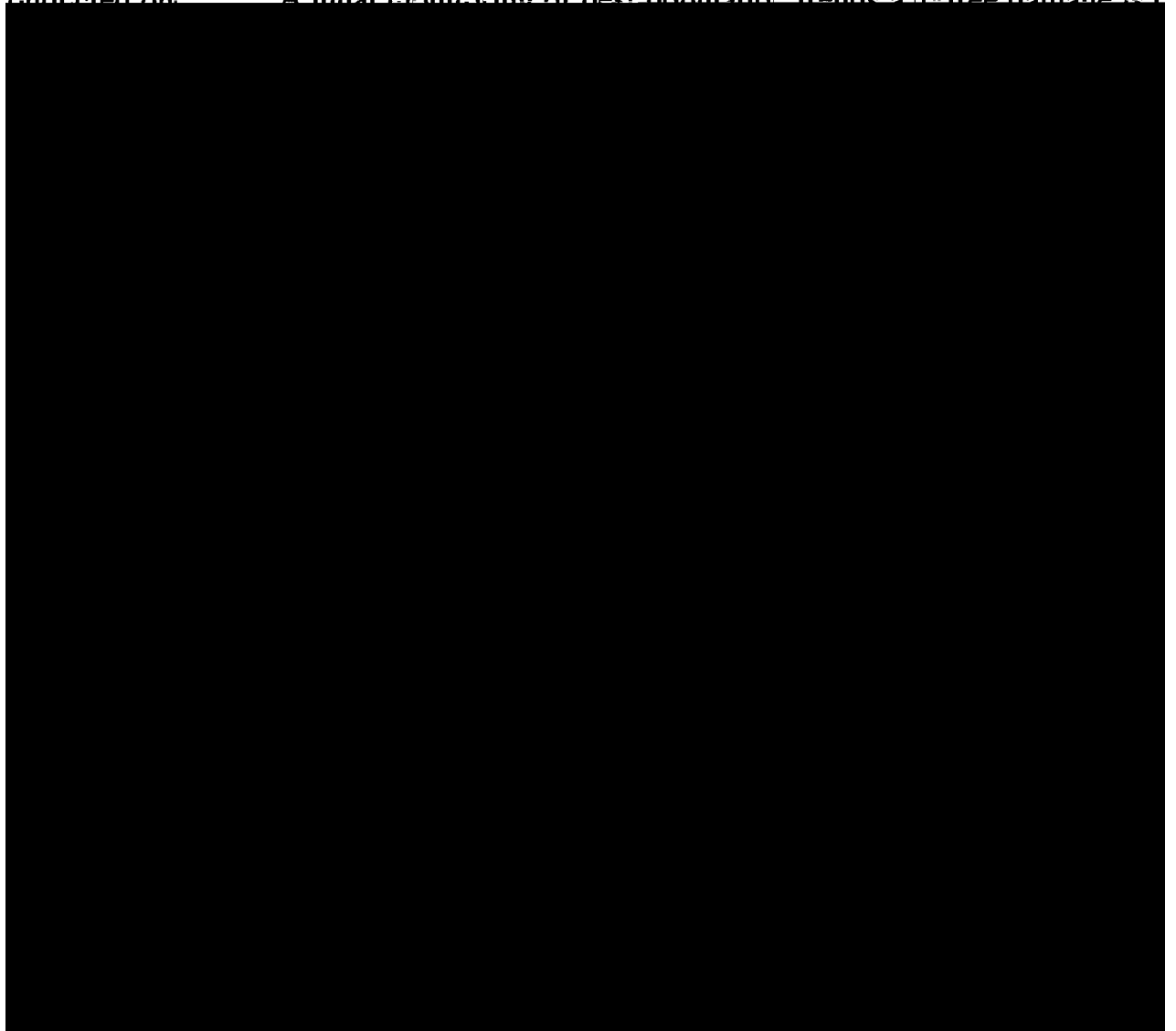




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Abstract

Annual monitoring of pest population trends and tree damage is c



Introduction

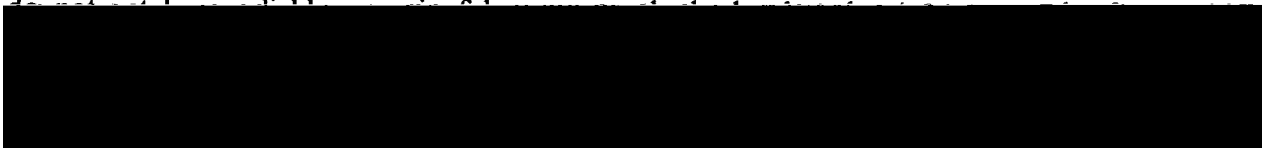
Damage to forest trees from insects, diseases and weather has increased in recent years.



Mount Mansfield Monitoring

Methods

There are many different methods for measuring forest pest populations. Some forest pests



FOREST TENT CATERPILLAR (FTEC) AND FULL LINE PINE NEEDLE EATER (FLPNE)



These pests are monitored using pheromone traps (multi-trap traps with a bio lure and a



[REDACTED]

Soil samples are collected annually in the fall to estimate the success of insecticide applications.

[REDACTED]

Yellow sticky traps are used to monitor the timing and duration of adult PT activity above ground,

[REDACTED]

Mount Mansfield and Lye Brook Wilderness Area

[REDACTED]

AERIAL SURVEY OF FOREST DAMAGE

Aerial surveys conducted by trained FPR staff during the summer months are used to detect

[REDACTED]

OZONE BIOINDICATOR PLANTS

Plants sensitive to ground level ozone are surveyed as part of the National Forest Health

[REDACTED]

Mount Mansfield

Underhill, Vermont

Insect populations of C. ...

The Lye Brook Wilderness Area aerial survey detected large areas of birch leaf miner

...

Plants sensitive to ozone showed symptoms of injury at both the Underhill and Bennington

...

Acknowledgments

Aerial survey and ground level data collection ...

...

Miller, J. D., Lockman, W. D., ...

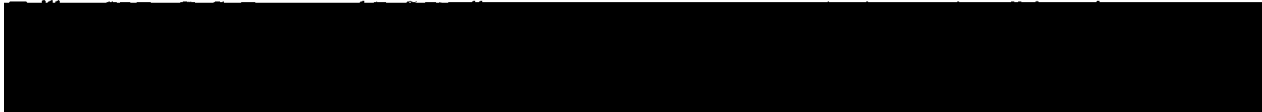


Table 1. Survey results on five forest pests monitored on Mount Mansfield from 1991 to 1996. Results are in average

Target Pest	Survey Type	Elevation	1991	1992	1993	1994	1995	1996
Forest Tent Caterpillar	Pheromone traps	1400'	0	0	0	0	0	
		2200'		0	0	0	0	
		3800'		0	0	0	0	
Spring Hemlock Looper	Pheromone traps	1400'		0	0	0	0	0
		2200'		0	0	0	0	0
		3800'		-	0	0	0	0
Fall	Pheromone traps	1400'		325	80	123	111	49
		2200'		521	-	133	28	232
		3800'		114	0	133	0	1
Spruce Budworm	Pheromone traps	1400'	19.7		16.0	53.0	11.7	30.3
		2200'			6.3	16.0	5.0	9.7
		3800'			1.7	18.7	25.7	49.0
Pear Thrips	Adult sticky traps	1400'	8	313	1472	4	37	1

Table 2. Pear thrips soil populations and resulting damage to sugar maple foliage at the Proctor Maple

Forest at 1400' elevation on Mount Mansfield from 1991 to 1996. Soil populations are reported in

[This table area is heavily obscured by noise and artifacts, making the data illegible.]

Soil Population based on average number of thrips in 10 bulk-plaster sized samples. Light Damage = 1-20% of leaves affected. Moderate Damage = 21-60% of leaves

Figure Forest damage mapped on Mt. Mansfield, 1996.

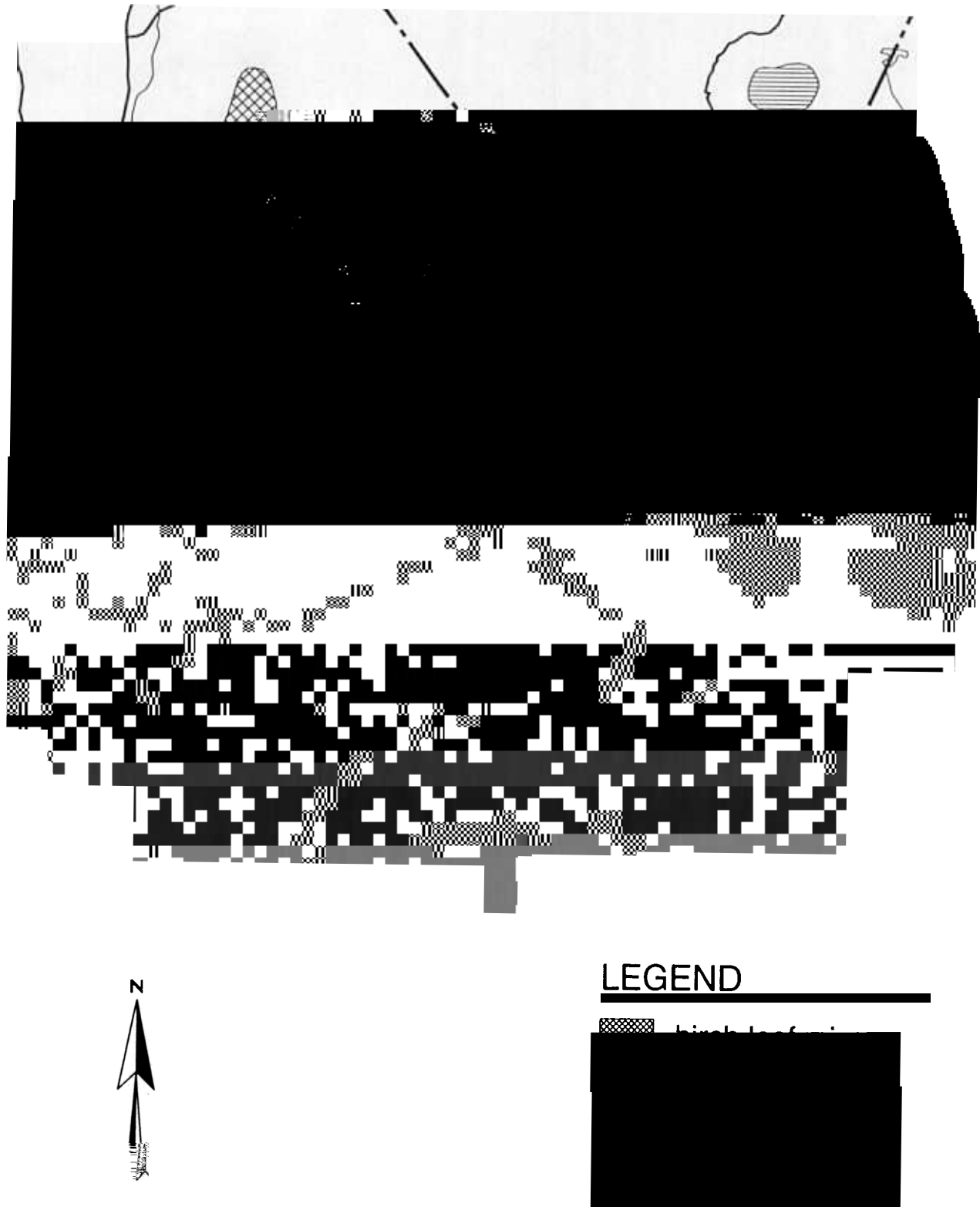


Figure 2. Forest density maps in Los Padres National Forest, 1996.

Figure 2. 24-hour cumulative ozone exposure (expressed as cumulative sum(CO) ozone based on 24-hour period) representing the

