

WHAT HAPPENED TO S. NEW ENGLAND FIRES?

THEY VIRTUALLY DISAPPEARED OVER A FEW DECADES IN THE MID 20TH CENTURY

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We've been seeing news of recent large forest fires elsewhere in the

East, but what's been

happening in southern New England? In a project for the Northeastern Forest Fire Protection Compact, I had the occasion to assemble and analyze this data. The information is available in working papers on each individual state available from the Compact.

Driving along any Interstate, it's hard to ignore just how much of the time you are looking out over forests, in this long settled and heavily populated region. Forests continue to supply jobs, tax base, and economic activity--in addition to fuel--that is still important in many of its picturesque rural towns. In this region, fire was active during the '20s and '30s, aided by a series of very dry years. Farming was still extensive over this landscape. The map of major fires in Rhode Island from the '20s to the '60s is impressive. Unfortunately, the records on fires in

Rhode Island before 1940 seem to have been lost. Fire numbers apparently peaked much later than area burned, but it is not certain how much this was affected by more complete reporting. All agree that fire reporting has prob-

ably weakened in recent years, so the officially reported data likely underestimate the number of fires occurring.



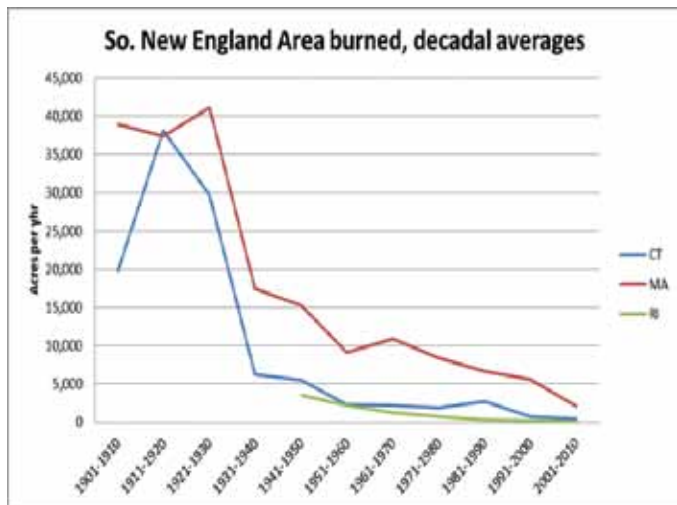
Connecticut fire prevention ad from the 1920s—before Smokey Bear.

A compilation of state data by the USFS for 1984 to 2010 showed a total of 162,000 acres burned in the three states—Connecticut, Massachusetts and Rhode Island—which sounds like a large number but is actually a very tiny percentage of the area's forest land every year. Fires ten acres and larger over this period burned 28 percent of the total area burned, but represented less than one percent of all the recorded fires. This is why it is dangerous and misleading to speak of averages in thinking of fire risk.

Southern New England's transition from a firebug's paradise to a virtually burn-free zone took place over just a few decades. Part of this trend was a byproduct of land use changes, especially the shrinkage of row crop agriculture. Development spreading into previously rural areas (by the '70s Connecti-

cut had more land in development than in cropland), by bringing more traffic, would be expected to result in more fires. This trend was more than offset, though, by effective regulation of open burning and a more aware public. Better rural roads by the '60s had

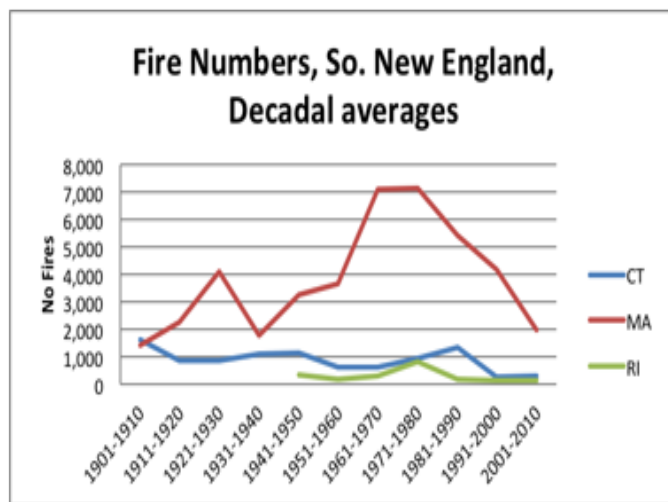
	Connecticut		Mass.		Rhode Island		SNE Totals	
Oldest data	1905		1908 (PARTIAL)		1943 (PARTIAL)			
	Area Burn	No. Fires	Area Burn	No. Fires	Area Burn	No. Fires	Area Burned	No. Fires
Decade	acres		acres		acres		acres	
1901-1910	19,772	1,615	38,992	1,390			58,764	3,005
1911-1920	38,142	842	37,337	2,260			75,479	3,102
1921-1930	29,667	829	41,124	4,098			70,791	4,927
1931-1940	6,218	1,091	17,443	1,769			23,661	2,860
1941-1950	5,565	1,113	15,256	3,248	3,561	343	24,382	4,703
1951-1960	2,308	576	9,148	3,670	2,215	169	13,670	4,414
1961-1970	2,165	582	10,897	7,083	1,265	306	14,327	7,971
1971-1980	1,919	924	8,374	7,158	748	836	11,040	8,918
1981-1990	2,745	1,306	6,694	5,422	345	164	9,784	6,892
1991-2000	735	214	5,633	4,180	189	125	6,557	4,518
2001-2010	403	276	2,116	1,969	130	117	2,650	2,363



made it easy to get crews and engines into nearly every woodlot. Better fire weather support, forecasting, and communications also helped. Near-universal cellphone ownership today means that smokes are reported almost instantly. It could also be that the proximity of the headquarters of so many fire insurance companies in Hartford and Boston leads to higher awareness of safety issues.

As to causes of fires, we have detailed data for 2000-1212 for Massachusetts, where reporting seems especially thorough. In those years, fires rated as incendiary were the leading cause of acres burned, followed closely by debris burning. Between them, these caused nearly half of the total area burned. So, as much progress as has been made, the fire prevention job is never-ending.

While it is not free from debate, my hunch from looking at weather data is that a long string of fairly moist springs has helped a good deal to keep fires small and prevent them from spreading. Wind is critical for fire spread and we lack data for that over time. We have some individual fire data for Massachusetts. Extreme fire behavior still occurs there--in 2008, a single Massachusetts fire of 1,264 acres burned more than the annual totals of seven other years between 2000 and 2010. This one fire accounted for 56 percent of the state's area burned that year. Massachusetts has



seen a volatile, but upward trend in percentage of annual area burned by the year's single largest fire.

Much of Massachusetts is in the uplands, primarily oak, oak-pine, and northern hardwoods. Such forests are resistant to fire. But near the coast, low sandy areas support large areas of pitch pine and oak forests and scrublands. These are highly flammable and have supported large fires since the mid '40s. Development has moved heavily into these areas, viewed as highly desirable residential property. These areas have been termed "the pitch pine-oak-residential structures" fuel type (by me). In this pitch pine belt, stretching from New Jersey to extreme southern Maine, early mariners often smelled smoke from burning woods before they even sighted land.

Future climate in southern New England is expected to evolve toward wetter and warmer weather--but with elevated occurrence of extreme events. These extremes are likely to include drought. During the regionwide drought of the early '60s, all three states experienced elevated forest fire activity. No drought of such intensity and duration has recurred since, baffling scientists. When it comes, we hope people will not have tossed out the forest fire protection services.

