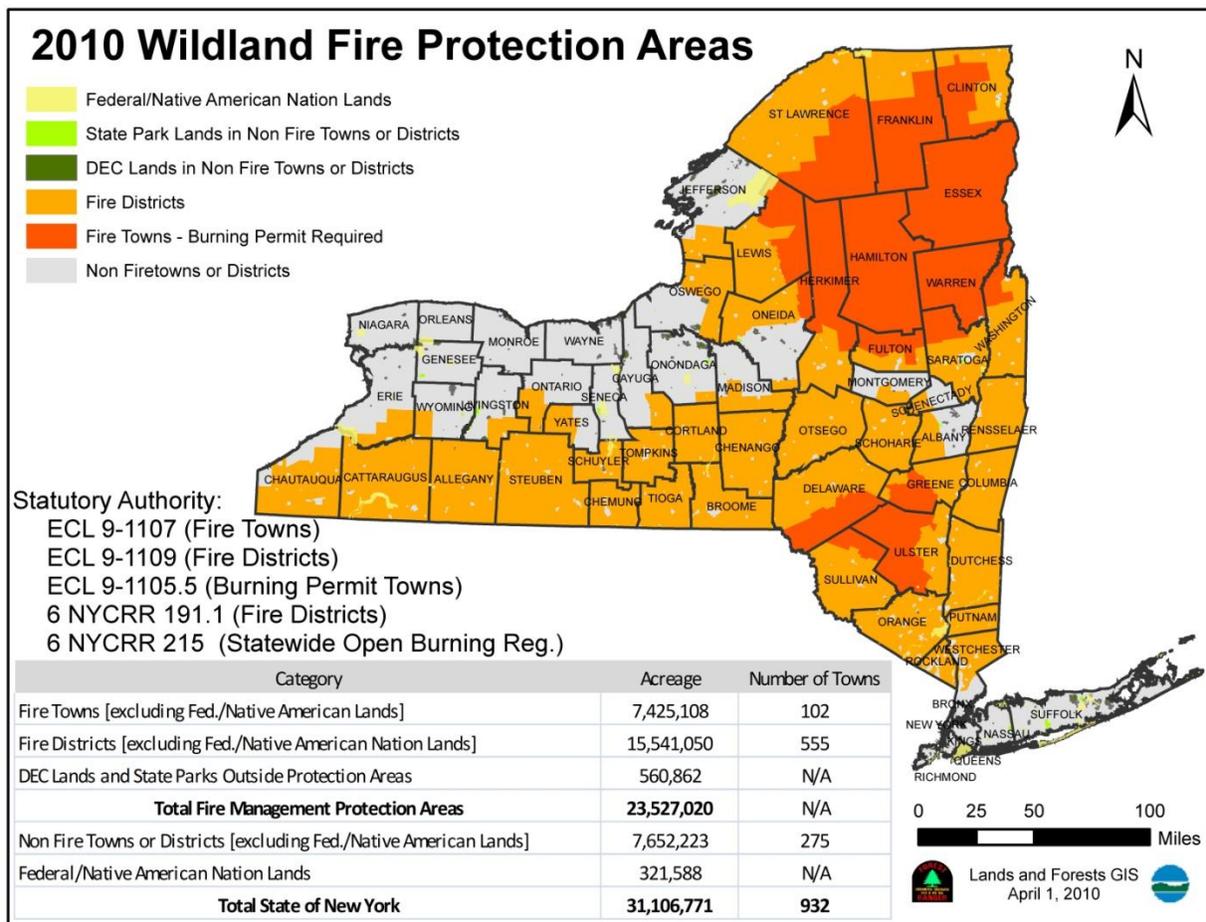


3.9 – Wildfire Hazard Profile

Wildfire is defined as an uncontrolled fire spreading through natural or unnatural vegetation that often has the potential to threaten lives and property if not contained. Wildfires that burn in or threaten to burn buildings and other structures are referred to as wildland urban interface fires. Wildfires include common terms such as forest fires, brush fires, grass fires, wildland urban interface fires, range fires or ground fires. Wildfires do not include those fires, either naturally or purposely ignited, that are controlled for a defined purpose of managing vegetation for one or more benefits. Prescribed fire or controlled burns are common terms for this type of wildland fire. Wildland fire is a term used to describe both wildfire and prescribed fire.

Wildfire in New York is based on the same science and environmental factors as any wildfire in the world. Fuels, weather and topography are the primary factors that determine the natural spread and destruction of every wildfire. New York has large tracts of diverse forest lands, many of which are the result of historic destructive wildfires. Although these destructive fires do not occur on an annual basis, New York’s fire history shows a cycle of fire occurrence that result in human death, property loss, forest destruction and air pollution.

Figure - 111



Forest Ranger Division Wildfire Protection Areas as Defined by the NYS Environmental Conservation Law

New York State is 30.2 million acres in size with 18.9 million acres of non-federal forested lands. In addition, there is an undetermined amount of open-space non-forested lands with significant wildfire potential. The wetlands of western New York and New York City frequently burn as weather conditions allow. These fires are not only spectacular in their intensity but quite often threaten nearby homes, businesses or improvements becoming a wildland-urban interface fire. All of New York's 19.3 million residents are affected by the most serious of wildfires. Smoke and particulate matter from wildfires 500 miles north in Quebec often finds its way to urban New York City. Wildfires in the surrounding wildland urban interface of New York City suburbs often do the same leading to much news reporting and attention by public officials.

Responsibilities for Wildfire Control

The Department of Environmental Conservation's (DEC) Division of Forest Protection ("*Forest Ranger Division*") is designated New York's lead agency for wildfire mitigation in the State's Standard Multi-Hazard Mitigation Plan <http://www.semo.state.ny.us/programs/planning/hazmitplan.cfm>. New York is a "Home Rule" State where local emergency services have primary authority for any and all emergencies. In the case of wildfire, the local fire department has the primary responsibility (incident command) for the control and containment of wildfires in their jurisdiction.

The Forest Ranger Division has a statutory requirement to provide a forest fire protection system for 657 of the 932 townships throughout New York. This area excludes cities and villages and covers 23.1 million acres of land including state-owned lands outside the 657 towns. The Lake Ontario Plains and New York City-Long Island areas are the general areas not included in the statutory requirement. That said, during some years the largest and most destructive wildfires occur on Long Island or in New York City. The Lake Ontario Plains were once some of New York's prime agricultural lands but much of the area has reverted to hardwood forests. Fire occurrence in this area will be determined from fire department data to determine the need to expand statutory responsibility to this area. Regardless of jurisdiction or location of a wildfire, fire departments and forest rangers have a long history of working together to control the most serious wildfires that occur anywhere in the State.

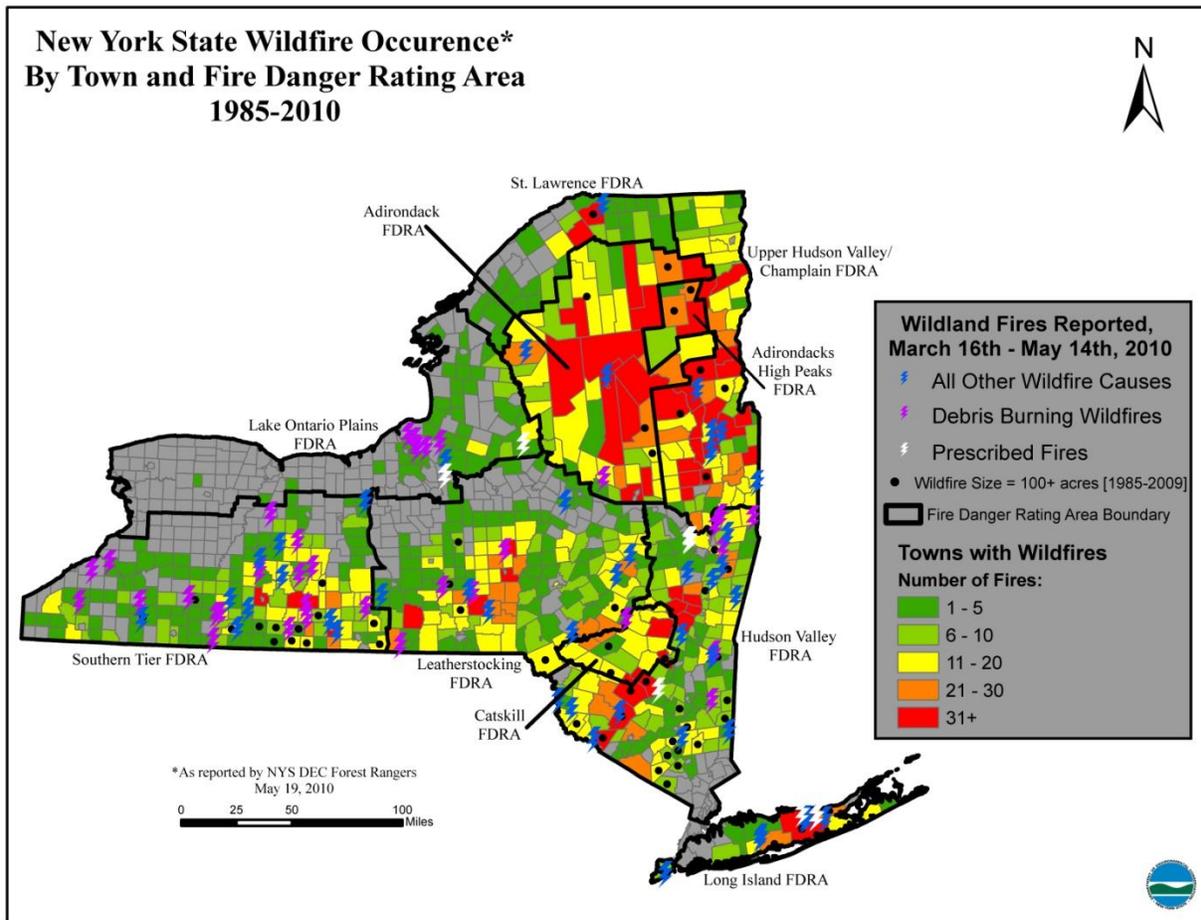


Figure 3-112 Wildfire Occurrence from 1985 through 2009.

Wildfire Occurrence

Wildfire occurrence reporting in New York is based on two data sources. The New York State Forest Ranger force has fought fires and retained records for 125 years. Over the past 25 years (1985-2009), Division records indicate that rangers suppressed 7,672 wildfires that burned a total of 71,187 acres. This averages 307 fires burning 2,847 acres per year; however, New York does not have a consistent wildfire season. New York’s fire history indicates periods of time when wildfires are much more numerous and destructive than the 25-year average would indicate. 1985, 1986, 1988, 1989, 1991, 1995, 1998, 1999, 2001 and 2008 were all above average years with 11,730 acres burned in 1989 alone. In 2008, a 2,800 acre wildfire occurred in Minnewaska State Park killing approximately 50% of the old growth forest cover in this very popular and scenic park.

In addition to Forest Rangers documenting wildfire occurrence, New York’s 1,700 fire departments do the same but in a significantly different format. Data collected by the NYS Office of Fire Prevention and Control (OFP&C) indicates that from 2000 through 2009, fire departments throughout New York responded to 76,479 wildfires, brush fires, grass fires or other outdoor fires (all natural vegetation fires). Although this averages approximately 7,648 fires per year, 2001, 2002, 2005, 2006 and 2008 were above average years with 10,169 fires reported in 2005 alone. Fire department data for 2005 through 2009 has been incorporated into the

Department's geographical information system (GIS) and several statistical occurrence maps and graphs have been produced. Fire departments do not report fire size but damage assessments may be determined from the data with further GIS applications.

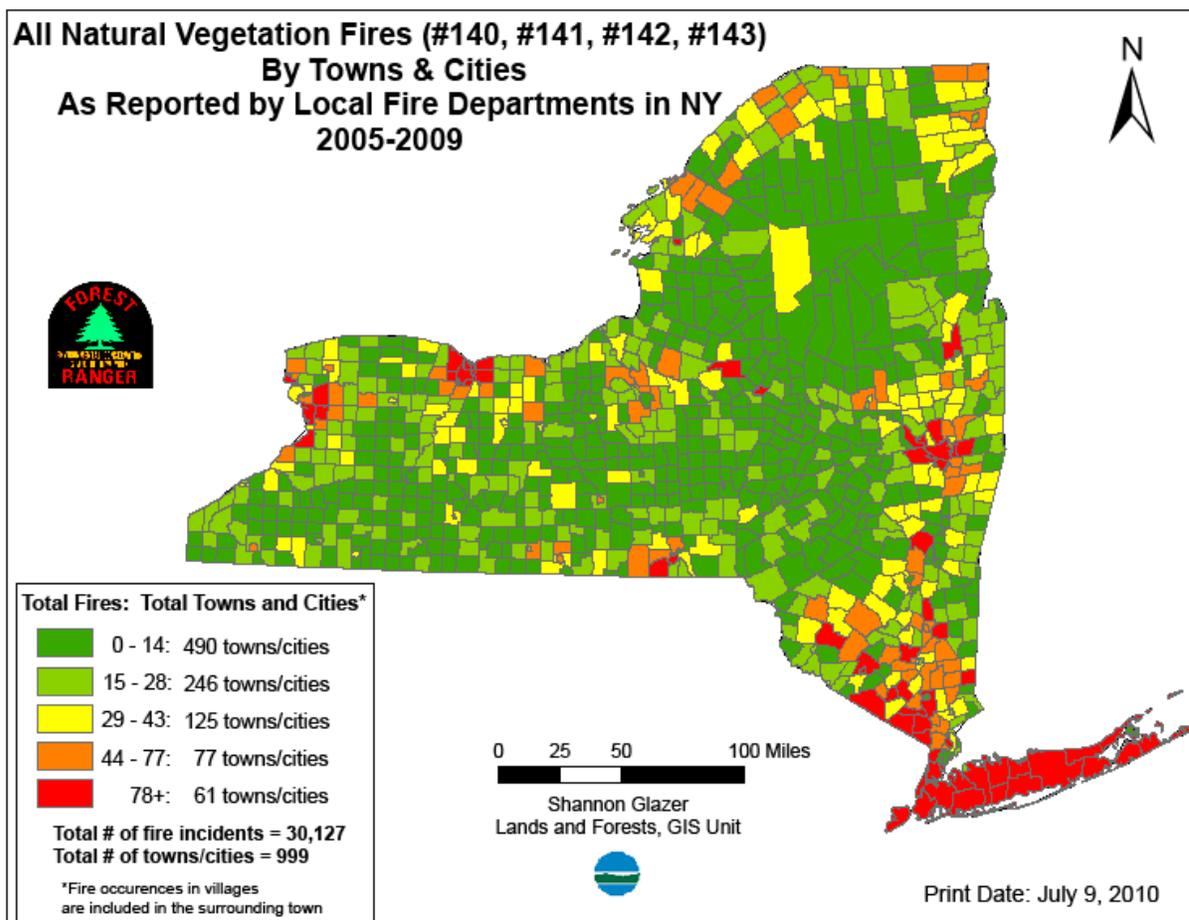


Figure - 113

Local Fire Department Wildfires from 2005 through 2009

Wildfire Causes

According to Forest Ranger Division wildfire occurrence data from 1985 through 2009, 96% of wildfires in New York are caused by humans. Debris burning accounts for 32% of all wildfires, arson fires account for 16%, campfires cause 13% and children are responsible for 9%. Smoking, equipment, railroads and miscellaneous causes contribute to the remaining 26% of wildfires. Lightning is responsible for 4% of New York's wildfires.

Beginning in 2010, New York instituted a new open burning regulation that bans brush burning statewide from March 15 through May 15, when 47% of all fire department-response wildfires occur. Forest Ranger data indicates that this new statewide ban resulted in 33% fewer wildfires caused by debris burning in 2010 when compared to the previous 10-year average. Since compliance with this regulation has to be further developed, Forest Ranger and fire department historical fire occurrence data will serve as a benchmark for future analysis of

wildfire occurrence throughout New York. As wildfires caused by debris burning decline through regulatory enforcement, arson or incendiary fires will likely be the primary cause of wildfires in the future. Addressing this issue will require a greater intensity of enforcement than is realized for all other causes combined.

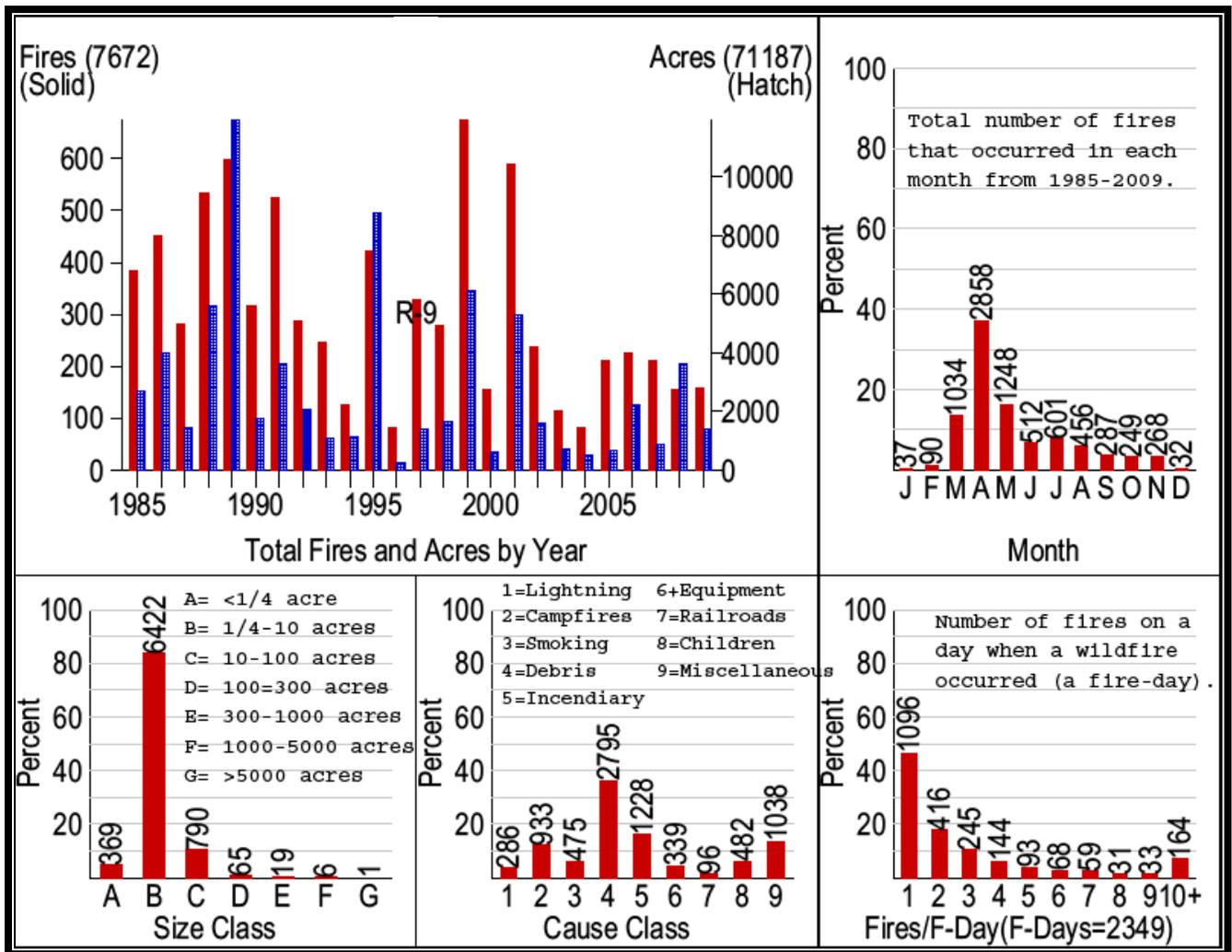


Table 3-42 DEC Forest Ranger Division Wildfire Occurrence Statistics from 1985 through 2009.

New York's large size, diverse topography and variety of climates require that the state be divided into distinct units for describing wildfire potential and risk. Through research and 35 years of wildfire occurrence linked to fire weather indices on the date of each fire start, New York is divided into eight fire danger rating areas (FDRAs). The main criteria used to develop the boundaries of these areas are similar vegetation, fire climate and topography. These criteria are supplemented by agency regional boundaries, National Weather Service fire weather zones, political boundaries, fire occurrence history and other influences. The Forest Ranger Division issues fire danger warnings when the fire danger rating is at high or above in one or more FDRAs.

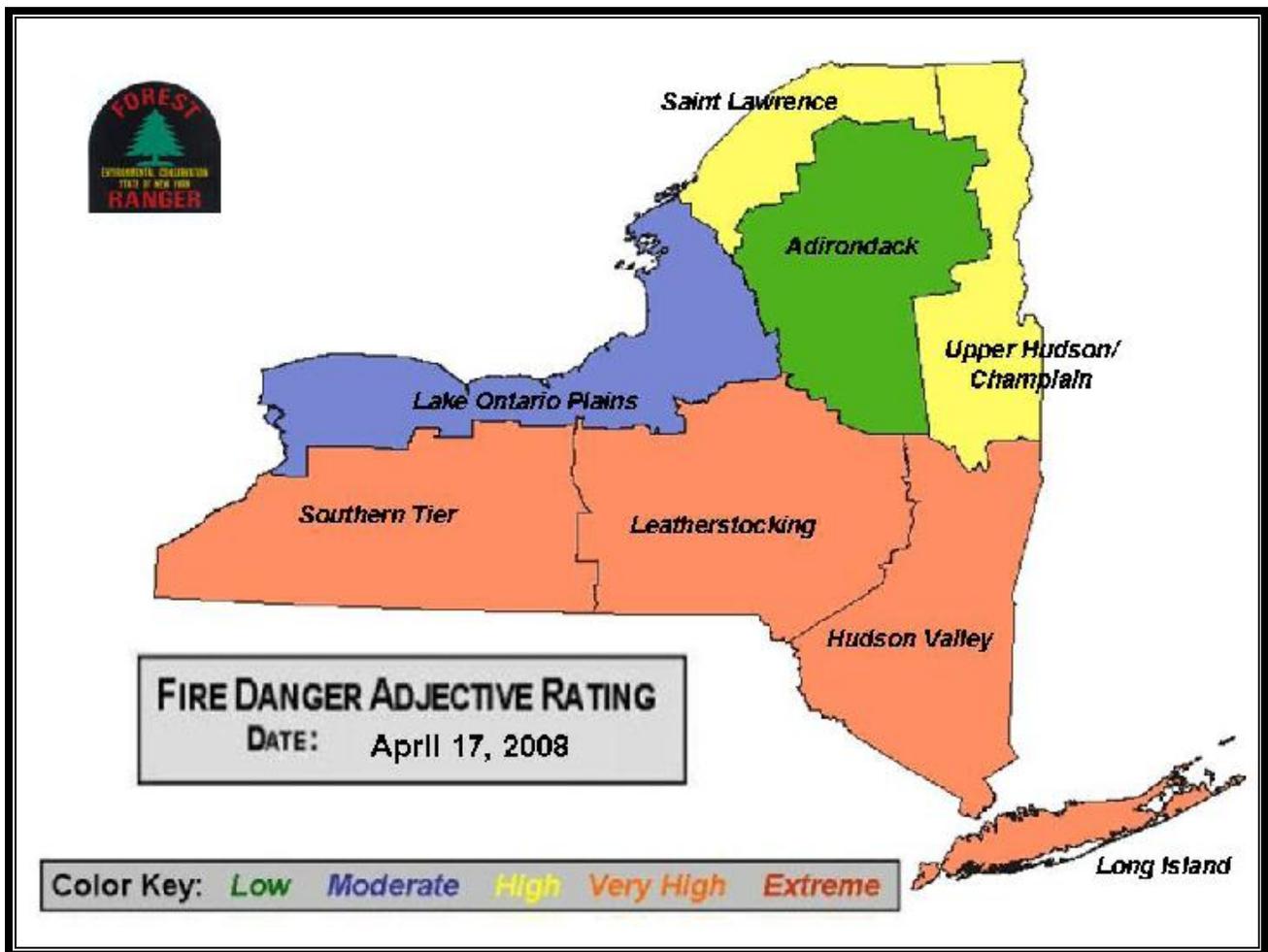


Figure 3-114 Fire Danger Rating Map for New York on April 17, 2008

Community and Individual Protection from Wildfire

Although fire departments and Forest Rangers have the most critical roles at controlling and extinguishing wildfires, local communities and individuals have the greatest role at preventing fires from occurring or from causing loss of life and property damage. Smokey Bear has been a worldwide symbol of forest and wildfire prevention for 65 years with great success. The number of wildfires caused by campfires, smoking and children continues to decline due to prevention strategies and behavioral changes. Fires caused by debris will be greatly reduced through compliance with state and local burning regulations. Regardless of prevention strategies, destructive wildfires will continue to occur when weather, fuels and topography support rapid fire spread. Communities-at-risk to wildfire should develop a community wildfire protection plan (CWPP) as a comprehensive means of addressing risk issues and mitigation strategies. The Firewise <http://www.firewise.org/index.php> and the Ready, Set Go! <http://www.iafc.org/ReadySetGo> programs provide general and specific recommendations for communities, homeowners and individuals to protect themselves from destructive wildfires.

Support to New York

During the occasional years where wildfire occurrence is beyond the ability of Forest Rangers and fire departments to adequately contain fires from causing additional damage, New York has several mutual aid options with other states, Federal agencies and Canadian provinces. New York has been a member of the Northeastern Forest Fire Protection Commission (NFFPC) since 1949. The mandate of the NFFPC (www.nffpc.org) is to provide the means for its seven member states, five Canadian provinces and the New England National Forest system to cope with fires that might be beyond the capabilities of a single member through information, technology and resource sharing (mutual aid) activities. In addition, New York has an annual agreement with the US Forest Service to exchange firefighting personnel and resources as needed to combat the most severe wildfires. Generally, New York sends at least one 20-person firefighting crew and several single resource personnel to fires throughout the US each year. New York received out of state firefighting assistance in 1995, 1998 and 2002.

Wildfire Mitigation Objectives

In order to minimize the occurrence of wildfire and the associated property loss, forest damage and sometimes loss of life, New York State, local governments, wildland urban interface residents and forest users will need to accomplish the following objectives:

- Maintain a highly trained, well equipped forest ranger force that uses its wildfire control expertise and resources to contain the most serious of fires.
- Support fire departments with their responsibility for initial attack of most wildfires.
- Enforce fire prevention laws including the apprehension of those who purposely set fires.
- Use wildfire predictive services to notify the public of fire danger and to increase initial attack when fires occur.
- Support and implement FireWise and Ready, Set Go! programs as a means of reducing property loss or loss of life in the wildland urban interface.
- Conduct fire prevention programs in areas of greatest need.
- Practice safe and authorized debris burning and recreation activities in all forests and wildland urban interface environments.
- Support fuel reduction techniques in critical wildland urban interface communities.
- Support the three communities with Community Wildfire Protection Plans (CWPP). Cragmoor, Albany Pine Bush and Long Island Pine Barrens, with activities that further reduce the risk of wildfire. As other communities develop CWPPs, support them in their efforts also.
- Identify communities-at-risk of destructive wildfires and support the development of CWPPs for these communities.

References

- FireWise Communities; www.firewise.org
- Ready, Set Go!; www.iafc.org/ReadySetGo
- National Association of State Foresters (NASF); www.stateforesters.org
- U.S. Forest Service Fire and Aviation Management; www.fs.fed.us/fire
- U.S. Forest Service State and Private Forestry, Northeast Area, Fire and Aviation Management; www.na.fs.fed.us/fire/index.shtm
- National Fire Protection Association; www.nfpa.org

- NASF Briefing Paper: Identifying Communities at Risk and Prioritizing Risk-Reduction Projects, July 2010; <http://stateforesters.org/node/1952>
- National Wildfire Management Report to Congress and Cohesive Strategy, Draft, October 2010
- NYS DEC Forest Ranger Division Annual Report for 2009; <http://www.dec.ny.gov/regulations/2371.html>

State Facilities – Assessing Vulnerability and Estimating Loss for Wildfire Hazard

Table 3-43 presents the State facility vulnerability assessment and loss estimation analysis.

Table 3-43
Wildfire Hazard Exposure to New York State Agency Facilities
within Adirondack Park and
Long Island Pine Barrens

NY State Agency	Total Facilities	Total # and % in *Adirondack Park and Long Island Pine Barrens	Critical Facilities, total number and percent in*Adirondack Park and Long Island Pine Barrens
Department of Environmental Conservation	1880	1070 (56.9%)	0
	\$104,611,361	\$40,568,402 (38%)	0
Department of Transportation	908	236 (26.0%)	0*
	\$232,514,852	\$10,650,805 (4.6%)	0*
Office of General Services	130	0	0
	\$2,133,659,048	0	0
State Emergency Management Office	4	0	0
	\$3,365,434	0	0
Number of facilities Total	2922	1306 (44.7%)	0

Source: NYS Fixed Asset information -Offices of General Services and Cyber Security Critical Infrastructure Coordination data bases. **Buildings within Adirondack Park and Long Island Central Pine Barren Areas*