

# **Maine Forest Service**

Forest Protection

## Wildland-Urban Interface Communities at Risk Community Wildfire Protection Plan

**Auburn, Maine**  
2018

Prepared by:  
**Maine Forest Service and Auburn Fire Department**



## Table of Contents

<b>List of Abbreviations and Acronyms</b>	<b>2</b>
<b>Executive Summary</b>	<b>3</b>
<b>Introduction</b>	<b>3</b>
Wildland Urban Interface Project Background	4
Goals and Objectives	4
Collaboration/ Public Meetings	5
Decision-Makers	5
Andro County: Background & Fire History	7
Andro County: Taylor Pond Project	10
Community Background	11
Wildland Fire History/Weather	11
General	12
Discussion from the EACC for 2018	12
Maine Fire Weather System	13
Overview of Firefighting Resources/Plans	14
<b>Methodology</b>	<b>16</b>
Structural Factors	17
Vegetation Factors	18
<b>Results</b>	<b>19</b>
Location and Structural Assessment Concerns	20
Community Structure Examples	22
Community Access Examples	23
Vegetation Plot Assessment Concerns	24
Community Vegetation Examples	25
<b>Community Summary</b>	<b>25</b>
<b>Suggested Actions</b>	<b>26</b>
<b>Suggested Projects</b>	<b>28</b>
<b>Potential Sources of State Funding and Resources</b>	<b>29</b>
<b>Potential Sources of Federal Funding</b>	<b>29</b>
<b>Contact Information</b>	<b>30</b>
<b>Appendices</b>	<b>31</b>
Class Day Information	32
Fire Resistant Plant List	33
Wildland Firefighting Equipment List	35
Helpful Internet Websites	36
Homeowner Reports	
Community Power Point Presentation	
Community Wildfire Protection Plan	

## List of Abbreviations and Acronyms

ATV	All Terrain Vehicle
ACHMP	Androscoggin County Hazard Mitigation Plan
AUEMA	Androscoggin Unified Emergency Management Agency
CWPP	Community Wildfire Protection Plan
EACC	Eastern Area Coordination Center
EMA	Emergency Management Agency
EOC	Emergency Operations Center
EOP	Emergency Operations Plan
GIS	Geographic Information System
GPM	Gallons Per Minute
HFRA	Healthy Forest Restoration Act
MFS	Maine Forest Service
MTN	Mountain
NEPA	National Environmental Policy Act
NFFPC	Northeastern Forest Fire Protection Compact
NFPA	National Fire Protection Association
PPE	Personal Protective Equipment
RCC	Regional Communications Center
USDA	United States Department of Agriculture
USFS	United States Forest Service
UTV	Utility Terrain Vehicle
WUI	Wildland Urban Interface

## **Executive Summary**

The goal of the Wildland Urban Interface (WUI) assessment program is to evaluate a community for hazards in the event of a wildfire in the wildland urban interface (the area where homes intermingle with wildland vegetation). The assessment also identifies the means by which any hazards found can be mitigated. The objective is to minimize the ability of fire to move between wildland and structures, thereby reducing the threat to life and property.

In 2010 the Maine Forest Service recorded 562 wildland fires, although the actual number of wildland fires could be higher. Nearly 75% of these fires in 2010 destroyed, damaged, or threatened structures.

During the five year period between 2006 and 2010 the Maine Forest Service recorded 1,235 wildland fires in the Southern District (which encompasses Auburn ME) burning an estimated total area of 1,043.41 acres. Examples of historic wildfire suppression costs in Maine communities include: Allagash (1992, \$522,855.96); Garfield Plt (1991, \$305,593.83); Baileyville (1998, \$286,668.43); Freeport (1991, \$271,035.00); Dixfield (2002, \$90,338.59); Milo (2002, \$76,795.21); Bucksport (2001, \$68,650.00); Northport (2001, \$67,957.80); and Centerville (2006, \$35,703.14).

During the assessment, 20 structural and 4 vegetative sites were evaluated within the wildland urban interface area. The assessment focused on such issues as building materials, defensible space, access, road signage, and water availability. Methodology and detailed results of the assessment are found in the main body of this report. **Overall, the structures assessed within Taylor Pond had an average score that falls into the ‘moderate’ risk category with some high and some low risk.**

Inadequate defensible space and flammable vegetation inside defensible space are the greatest source of Taylor Pond’s elevated risk. Factors including low water availability, quality of access roads, and signage contribute to this risk. This report contains recommendations to rectify the identified issues, along with suggestions for building materials, low-flammable plants, and guidelines for the safe placement of firewood and fuel storage tanks for existing and development areas.

The factors contributing to increased fire risk in the wildland urban interface found within Taylor Pond area can be lessened by following the strategies outlined in this report, “decreasing the risk of catastrophic fire and loss of life and property.”

## **Introduction**

### **Wildland Urban Interface Project Background**

Buildings located in the WUI can ignite both directly and indirectly. Direct causes result from surrounding flames coming in contact with the building causing it to ignite. Indirect causes can come from firebrands from an approaching wildfire being lofted into the air and igniting combustible roofs or surrounding vegetation, and also from radiant heat that can ignite structures and vegetation.

Wildland urban interface areas present unique challenges to fighting fires. Wildland fire fighters may not be trained to fight structural fires and structural fire fighters may be unaware of wildland fire fighting techniques. Dangerous situations combined with improperly trained personnel may result in catastrophic fires.

The Maine Forest Service has implemented the Communities at Risk, Wildland-Urban Interface Program. The program involves an assessment and report that specifies areas in a Community that are at risk or could be improved to avoid the danger associated with wildland fires in the WUI. In addition, the WUI assessment report includes suggested actions and projects that can greatly reduce the risk of catastrophic fires in WUI areas.

### **What is a CWPP?**

A CWPP is a Community Wildfire Protection Plan. The development of a CWPP is a community-based forest planning and prioritization process.

The CWPP is a collaborative project that has two objectives: to identify and prioritize hazardous fuels treatments that will protect the community and to recommend measures for reducing structural ignitability.

A CWPP is a required prerequisite under the Healthy Forest Restoration Act (HFRA) of 2003 to receive hazardous fuels reduction funding. The minimum requirements for a CWPP as described in the HFRA are:

- *Collaboration:* A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
- *Prioritized Fuel Reduction:* A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
- *Treatment of Structural Ignitability:* A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

### **Why develop a CWPP?**

A CWPP can help a community clarify and refine its priorities for life, property, and critical infrastructure in the wildland-urban interface (WUI). Each CWPP is different because each plan is specific to the needs of the local community. Some possible issues that may be addressed include wildfire response, hazard mitigation, structure protection, education, and community preparedness.

### **Goals and Objectives**

The goals of this report are to evaluate potential fire hazards in the WUI found within Auburn's Taylor Pond area and identify appropriate actions to reduce/eliminate those hazards.

The objectives are to decrease the chances of a wildland fire spreading to homes and other structures, ultimately saving property and lives, and also providing a cooperative mitigation to a community hazard between the Maine Forest Service, Auburn Fire Dept., community officials, and residents.

### **Collaboration/ Public Meetings**

On Wednesday Nov 8, 2017 a public information meeting was scheduled and Maine Forest Service personnel provided information regarding the upcoming wildfire risk assessment process. The Maine Forest Service met with 14 Taylor Pond residents in the council chambers at Auburn Hall. The meeting went well and the residence seemed very interested in the fire prevention program. Residents had the opportunity to discuss concerns, ask questions, and offer input. Plans were made to conduct wildfire risk assessments along selected areas of the pond on Monday, Nov 20<sup>th</sup> with several members of the Auburn Fire Department.

Items discussed in this meeting were:

1. Definitions and background of the Firewise Program
2. Methods for conducting wildfire risk assessments
3. Requirements and advantages of the Firewise Communities Program
4. Explanation of the Community Wildfire Protection Plan
5. Discussion on scheduling wildfire risk assessments / timeline
6. Questions and answers

A letter was drafted and sent out to residence giving them the chance to opt out. Everyone at the meeting signed up to have a wildfire risk assessment done, the remaining houses were picked randomly. Our goal would be to do 20 – 30 wildfire risk assessments with 3 rangers and 3 Auburn FF's working together. Normally, each WRA takes about 15 minutes, but if people are home and they want to talk, they could take up to 30 minutes. The results of the assessments would then go into a Community Wildfire Protection Plan, which would be written over the winter and presented to the community next spring. This would also qualify them to participate in our free chipping program, which received a lot of interest after all the recent storm damage.

Decision-Makers: Local, County, State, Federal  
Collaboration among interested parties began at the onset of the project. The organizations listed in the table were involved in the development of the CWPP. Representatives from the organizations were responsible for development and decision-making for the plan. The collaborative input and expertise ensures that this document reflects the highest priorities of the community.

Organization	Roles and Responsibilities
Auburn Fire Department	Local information and expertise, CWPP input and decision-making; community risk and value assessment, development of community protection priorities, and establishment of fuels treatment project areas and methods. Provide input and expertise on protection resources, hazard assessment and defensible space.
Andro County EMA	Provide EOP resources/wildfire hazard planning and actions necessary for preparedness, response and recovery actions to wildfire disasters
Maine Forest Service	Facilitation of planning process and development/ approval of CWPP process and minimum standards; provides input and expertise on forestry, fire and fuels, protection, and FireWise concepts

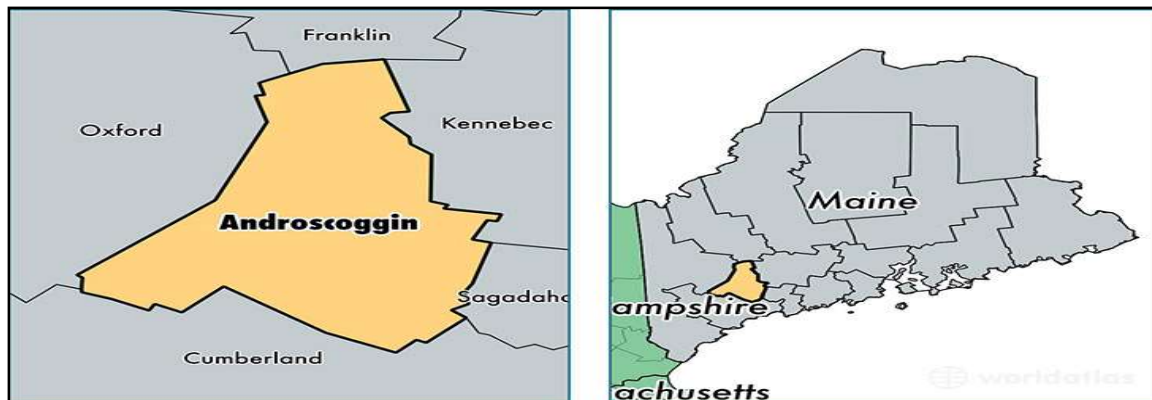
In addition, the CWPP draws upon the input and feedback provided by members of the public and other stakeholders who participated in the public meetings and/or met one-on-one during the wildfire risk assessment process.

#### **Integration with Other Planning Efforts:**

During development of this CWPP, other planning and management documents were reviewed in order to avoid conflicting goals and objectives.

The lead entity coordinating natural hazard mitigation is the Androscoggin Unified Emergency Management Agency (AUEMA). Updated in August 2008, the Androscoggin County Hazard Mitigation Plan (ACHMP) provides elected officials, emergency managers, emergency responders, volunteers and citizens with a guideline of the County emergency management program.

The following sections identify and contain pertinent excerpts from this planning document and are considered during development of this plan. It is anticipated that the Community Wildfire Protection Plan will dovetail with these plans.



### **Androscoggin County Background & Fire History:**

Androscoggin County, the fourth smallest county in Maine, has a land area of 470 square miles and 29 sq. miles of water. Androscoggin County encompasses two cities, Auburn and Lewiston, and 12 towns. Lewiston is the second largest city in Maine; Auburn is the fourth largest. The estimated population of the County for 2016 is 107,319. Lewiston/Auburn is a center for manufacturing, services, and retail trade. While agriculture is less important today than in the past, several communities, including Turner and Auburn, still support an active farming environment. Much of the county's area remains wooded. Androscoggin County lies in the midst of the southwestern section of Maine, having its greatest length from north to south. The county derives its name from that of the river, which is a corruption of Anasagunticook, the name of the Indian tribe which formerly occupied the region. It contains the larger proportion of the available water power of the Androscoggin and its tributaries. The county buildings are at Auburn, where, too, the courts are held.

The major natural features of the county include the Androscoggin River which passes through it longitudinally, dividing it into two nearly equal parts and drains some 2,900 square miles as it flows between Auburn and Lewiston; the Little Androscoggin River with a drainage area of 350 square miles at its confluence with the Androscoggin River; the Sabattus River with a drainage area of 74 square miles when it enters the Androscoggin River in Lisbon; the Nezinscot River in Turner and many lakes and ponds.

The topography in Androscoggin County is very uneven, having many high hills, but no mountains. Its ponds, springs and rivulets are numerous. Within its limits are Auburn Lake, Sabattus, Taylor, Thompson, and Tripp Ponds, and the noted mineral springs of Poland, West Auburn and Lewiston. There are few extensive bogs, and there is little other waste land. The agricultural qualities of the County are not surpassed in the southern half of the State, and its manufactures are more extensive than that of any other county.



## Risk Assessment: Androscoggin County Hazard Mitigation Plan 2011

### Type of Hazard:

#### Hurricane/ Windstorm

##### Moderate

During the 20th Century, there have been at least 7 tropical storms/hurricanes; the most recent were severe storms in 2008 having caused damage throughout Androscoggin County. Most damage is from flooding due to heavy rain. Power outages have been widespread, often from tree limbs falling on power lines. Windstorm damage is usually limited to power outages and minor structural damage from falling tree limbs and flooding from heavy rain. Last October 30 of 2017 there was a high wind event that took down many trees and wires and damaged some structures. Wind gusts of 50 MPH or more were recorded.

#### Severe Summer Storm/ Extreme Heat

##### Moderate

Excessive rainfall amounts over relatively small areas results in high stream flows and localized flooding resulting in excessive erosion and potentially damaging stream channels, culverts, bridges, roads and utilities. While the climate in Androscoggin County is generally temperate, summer temperatures have occasionally exceeded 100 deg. F (<http://www.fema.gov/hazard/heat/index.shtm> FEMA, 2010).

#### Severe Winter Storm/ Extreme cold

High Androscoggin County experiences a severe winter storm almost every year. The 1998 Ice Storm resulted in more than \$3 M in damages and increased fuel loading with all the broken tree limbs. Freezing conditions may endanger resident health and safety. Although more than 20 hailstorms have been reported since 1950, there have been no injuries or quantified property or crop damage.

#### Tornado

##### Low

Androscoggin County has experienced 4 tornadoes since 1950, with one injury reported. Androscoggin County experienced one F2 tornado in 1971. The most recent tornado, in 1988, caused minor damage to homes in Hill View Trailer Park in Turner and damaged a small airplane at Twitchell's Airport in Turner.

#### Wildfire/ Urban fire

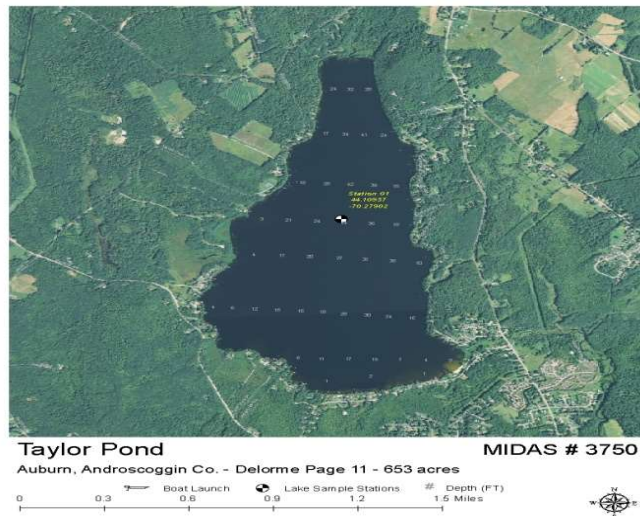
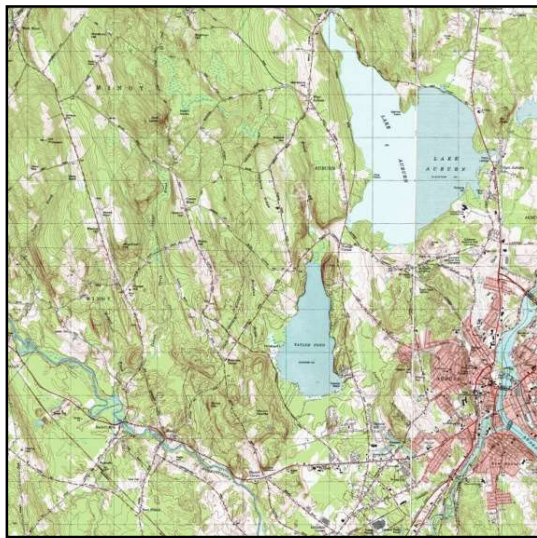
##### Moderate

Maine experienced devastating fires in 1947, with some minor fires in Androscoggin County. Between Aug.1 & Sept. 12, 2002, there were more than 220 fires in Maine during the height of the drought. (Lewiston Sun Journal, Sept. 12, 2002)

As human development continues to spread into Androscoggin County's agricultural and forestlands, the risk of WUI fire escalates. The County's diverse geography, population, and land ownership patterns create challenges to reducing its risk of wildfire. At the same time, these are important County assets that should be protected from wildfire. Androscoggin County Hazard Mitigation Plan 2011

Drought significantly increases fire danger. All of Androscoggin County was affected by the 1999-2002 droughts. Conditions were ripe for fires, ground and surface water levels were at record lows in many areas, potentially decreasing the ability of firefighters to effectively control fires that did occur. The probability of drought recurring is rated medium. (ACHMP)

Maine's forests are not as susceptible to fire as some areas of the country that have been in the news in recent years. Maine generally has adequate precipitation throughout the year to support its forest vegetation, and its forest species are not as susceptible to ignite through lightning or carelessly disposed smoking and cooking debris.



#### Auburn Community Background (General):

Government:

#### Climate Summary:

In Auburn, the summers are warm, the winters are freezing, and it is partly cloudy year round. Over the course of the year, the temperature typically varies from  $11^{\circ}\text{F}$  to  $79^{\circ}\text{F}$  and is rarely below  $-5^{\circ}\text{F}$  or above  $87^{\circ}\text{F}$ .

The warm season lasts for 3.6 months, from May 31 to September 17, with an average daily high temperature above  $69^{\circ}\text{F}$ . The hottest day of the year is July 27, with an average high of  $79^{\circ}\text{F}$  and low of  $59^{\circ}\text{F}$ .

The cold season lasts for 3.3 months, from December 2 to March 12, with an average daily high temperature below  $39^{\circ}\text{F}$ . The coldest day of the year is January 29, with an average low of  $11^{\circ}\text{F}$  and high of  $29^{\circ}\text{F}$ .

## **Taylor Pond Auburn, Maine**

<b>Area (acres):</b>	653
<b>Perimeter (miles):</b>	5.4
<b>Mean Depth (feet):</b>	17
<b>Max Depth (feet):</b>	44
<b>Delorme Page:</b>	11
<b>Fishery Type:</b>	Warm water
<b>Invasive Aquatic Infestation:</b>	None known
<b>Water Quality:</b>	Average

## **Other Lake & Watershed Information**

<b>% 500-m buffer in natural land cover:</b>	76
<b>% 500-m buffer in agricultural land cover:</b>	5
<b>% 500-m buffer in developed land cover:</b>	19
<b>% 500-m buffer covered by impervious surface:</b>	3.2
<b>Number of dams on the lake:</b>	0
<b>Lake elevation (m):</b>	73
<b>Length of shoreline (m):</b>	8,311
<b>Shoreline "irregularity index" *:</b>	1.45

*\* This index is the ratio of shoreline length to the circumference of a circle of same area as the lake. The index is also known as the 'shoreline development index'. The greater the number, the more 'irregular' is the shoreline.*

## Community Background (Wildland Fire History & Potential):

Maine's forests are not as susceptible to fire as some areas of the country that have been in the news in recent years. Maine generally has adequate precipitation throughout the year to support its forest vegetation, and its forest species are not as susceptible to ignite through lightning or carelessly disposed smoking and cooking debris.

In October 1947, after several months of far below normal rainfall, several areas of Maine experienced devastating wildfires. In Androscoggin County, the largest fires occurred in Auburn and Livermore, with smaller fires in Lisbon, Durham and throughout the county. An extensive portion of Auburn burned and had to be rebuilt, the village of New Auburn emerged from the ashes. Androscoggin County Hazard Mitigation Plan 2011.

The MFS reports from 1994 -2009 eight structures were destroyed, 10 structures were damaged, and 90 structures were threatened by wildfires. The damage costs listed below are estimates given to the Maine Forest Service; this data does not include actual cost and does not include the type of structure destroyed. For actual damage cost insurance agents should be contacted.

### Previous Occurrences:

Androscoggin County Wildfires Reported to the Maine Forest Service 1967-2008 wildfire cause and number of wildfires:

Campfire 30, Children 165, Debris 291, Incendiary 90, Lightning 20, Machinery 73, Miscellaneous 76, Railroad 100, Smoking 84,  
(Source: Maine Forest Service, 2010)

Androscoggin County Wildfires - Destroyed Structures\* 1994-2009, Municipality, Year, # of Structures, and Estimated Damage Cost:

Auburn 1999 1 \$2,000, Lisbon 1995 1 \$500, Greene 2001 1 \$350, Poland 2003 1 \$500, Leeds 2004 1 \$500, Wales 2009 1 \$200,000 (Source: Maine Forest Service, 2010) \*Damage costs reported by the MFS are just estimates and not actual insurance claim totals.

The Maine Forest Service has recorded 70 wildland fires in Androscoggin County alone during the five year period between 2013 and 2017, which burned an estimated 65.5 acres. Causes of these fires were determined to be camp fires (12), children (6), debris (19), incendiary (5), lightning (0), machinery (5), smoking (3), railroads (6), miscellaneous reasons (13), and structures (1).

### Probability of Future Events:

There are no probability studies that have been conducted although, since 1947, Androscoggin County has worked to become better prepared to fight forest fires when they occur. What's in place for fire fighting has shown an effective means to keep fires at bay. Less susceptible hardwoods have established themselves in the burned over areas and where ice and wind storm damages has occurred. It is expected that eventually softwoods will again predominate in the Maine woods. (Androscoggin County Hazard Mitigation Plan 2011)

Development trends, however, could be working to increase the wildfire hazard as seasonal and year-round development near Androscoggin County's lakes has been significant; canopy removal is discouraged in order to minimize erosion and protect lake water quality. Additionally, new homes are often built without regard to buffers from forestland, thereby creating a highly ignitable environment. Greater thought needs to be taken when building in a wooded area to address the issues of forestland buffer and access in emergency situations.

The ice storm of '98 left much dead wood in the county's forests, some adjacent to housing and other developed areas. Slash left in the woods from the 1938 hurricane and intensive forestry activities during and following World War II were considered by many to be key causes of the 1947 fires. It can be assumed that some locations may be more vulnerable to forest fires because dead wood has not been removed from the forests.

According to the Maine Forest Service (MFS) between 1967- 2009 there were a total of 961 wildfires resulting in 1,272.22 acres burned with a total suppression cost of \$629,074.45; few structures have been lost to wildfire. Some experts believe climate change and increased development in the WUI areas significantly increases the chance of a wildfire burning homes and businesses.

For land cover, there is approximately 70% mixed forest in Androscoggin County, 20% crop and bare ground for farming/ agriculture/recreation, and 10% developed lands.

Two primary causes of wildfire in Androscoggin County are "debris burning" (escaped or unattended) and "children." One cannot predict who will seek burn permits in any given year or where people may be careless. (ACHMP)

#### Potential Wildfire Losses:

The extent of damage and loss due to wildfires may be great depending on the type of wildfire and the proximity of the event. New dwellings built close to large tracts of woodlands without buffers create an environment where human activity could ignite combustible vegetative materials. Historically, there have been no major forest fires in Androscoggin County. (ACHMP)

Discussion from the EACC for 2018 fire season (Eastern Area Coordination Center): a predicted fire potential from the US Forest Service that gives a broad view of wildfire potential in New England in the short and long term. ([www.predictiveservices.nifc.gov/](http://www.predictiveservices.nifc.gov/))

Past Weather and Drought: 30 day soil moisture and precipitation anomalies were below normal across portions of the Mid-Mississippi Valley and New England at the beginning of June 2018.

Fuel Conditions: 100 and 1000 hour fuel moistures as well as Energy Release Components or Canadian Build-Up Indices were near seasonal normal levels towards the end of May over the majority of the Eastern Area.

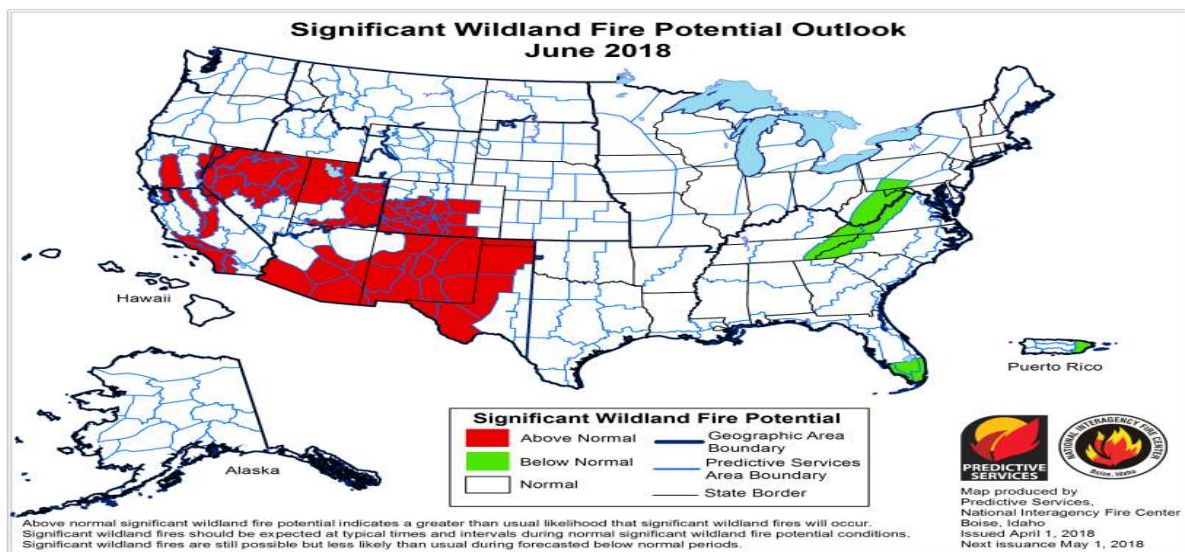
**Fire Season Timing:** The 2018 fall fire season may start earlier than normal across portions of the Great Lakes and Big Rivers if drier than normal conditions develop over these areas in September.

**Area Discussion:** Near normal fire potential is expected over the majority of the Eastern Area through the summer of 2018.

**Past Weather and Drought:** 30 day soil moisture and precipitation anomalies were below normal across portions of the Mid-Mississippi Valley and New England at the beginning of June 2018.

**Weather and Climate Outlook:** Above normal temperatures are forecast over much of the southern tier of the Eastern Area into July 2018. Wetter than normal conditions overall are forecast across the northern tier of the Eastern Area June into July.

EACC Predictive Services Map:



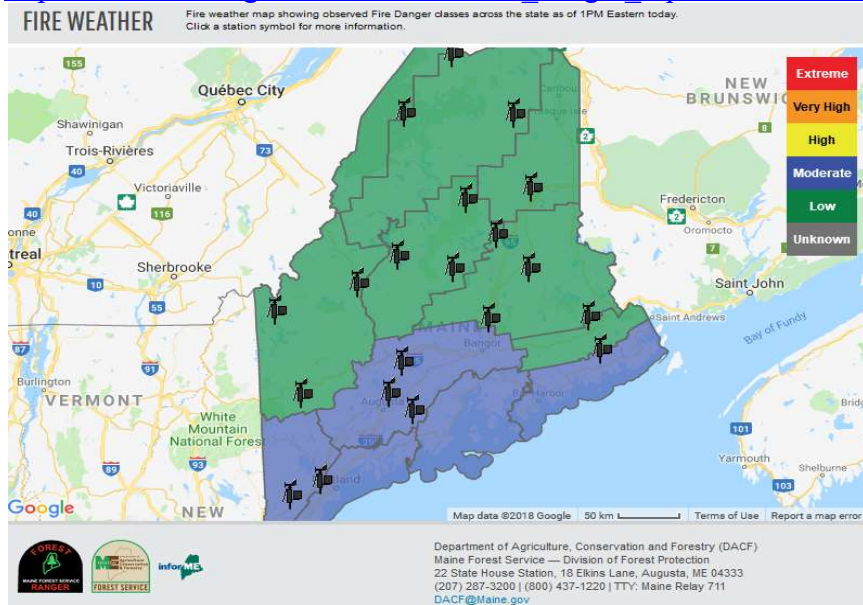
The predictive services are a snapshot of possible fire issues throughout the country however Maine's 2018 spring wildfire season was above average having 247 fires that burned 520 acres.

Latest Maine Fire Weather web site:

Maine is currently working on updating its own weather sites across the state for more accuracy and use with the federal weather system. Last updated in the 1980's, the new system has more weather stations that are accessible to local fire departments and citizens alike. More reliable stations that better fine tune weather data to your area. Firefighters are able to go to the web-site check the closest weather station to their town. Better local data will help fire personnel decide whether to issue fire permits, allow burning or help to plan daily activities based on fire danger.



[http://www.maine.gov/dacf/mfs/wildfire\\_danger\\_report/index.html](http://www.maine.gov/dacf/mfs/wildfire_danger_report/index.html)



Left: An article from the Lewiston Daily Sun, April 21, 2006 reports a wildfire near the railroad tracks off Kitty Hawk Ave in Auburn. The Auburn Fire Dept., MFS, and others responded and worked together to extinguish the fire.

## Overview of available structural and wildland firefighting resources:

The Auburn Fire Department provides fire protection with three fully-staffed fire stations that are manned 24 hours a day, 7 days a week. There are 64 full-time firefighters/EMTs/Paramedics who respond to approximately 5,000 fire, EMS and emergency calls annually. There are six administrative personnel whose offices are located at Central Station on Minot Avenue.

In addition to servicing the Auburn area, the Fire Department also has mutual aid agreements with Durham, Lewiston, Minot, New Gloucester, Poland and Turner. These agreements provide support to area Fire Departments during fires and emergency calls to ensure adequate fire protection and emergency personnel for all communities.

#### Fire Suppression:

This division was designed to protect and save lives and property from fire and other emergencies such as explosions, hazardous material incidents, electrical problems, water removal and bomb threats. It is also designed to provide first responder medical care.  
[www.auburnmaine.gov/pages/government/fire-department](http://www.auburnmaine.gov/pages/government/fire-department)

Auburn's Fire Department is equipped with the following vehicles:

Engine 1, Quint 24, Pump Capacity: 1,250 gpm, Tank Capacity: 300 gallons

- Engine 2, Pump Capacity: 1,000 gpm, Tank Capacity: 1,000 gallons
- Engine 3, Pump Capacity: 1000 gpm, Tank Capacity: 1000 gallons
- Engine 5, Pump Capacity: 1000 gpm, Tank Capacity 1000 gallons
- Utility Vehicle, Portable pumps, Chain Saws, hose and hand tools

According to Auburn's Prevention Officer Dave O'Connell there are some fire concerns in Taylor Pond area. The roads are narrow in spots and it can be difficult getting an engine turned around. Distance from the station and lack of water are issues. "From station to Taylor Pond, our response time runs 10 to 20 minutes plus". Some other issues he sees are the proximity of grills and camp fire placement to homes and use of illegal fireworks.

Wildfires may require additional resources such as firefighters, helicopters, pumps, & heavy equipment. Mutual aid agreements are in place to help provide a balanced and coordinated effort throughout the county. Groups of firefighters and fire equipment are capable of moving promptly within the County or to any adjacent county (under proper authority) to assist in the control of a conflagration. They establish their own agreements & procedures. Androscoggin EMA provides support when requested. Requests for assistance may also be made to The Maine Forest Service through The Maine State Police.

Each municipality will be responsible for conducting wildfire firefighting for fires within their jurisdiction. Due to the lack of firefighting resources, including manpower, the municipal fire chiefs will request mutual aid from fire departments throughout the County through Androscoggin County Sheriff's Office. Responding units will report to the Incident Commander at the scene. Support groups respond when requested. Each agency providing equipment and personnel maintains a record of all expenses, activities, and supporting documents. For large and/or multi-jurisdictional wildland fires, the Maine Forest Service will provide command and control, additional wild land firefighters, vehicles and aircraft resources. (AUEMA)

The Maine Forest Service uses its own aircraft for reconnaissance flights over the Maine woods searching for wildland fires when needed and feasible. First warning will come from these flights, private flights or from residents or visitors to the area. (AUEMA)



The closest MFS ranger station to Auburn is Gray (roughly 15 miles to the south), but if there was a large wildfire, the Maine Forest Service would utilize resources from ranger stations in Cornish, West Paris, Weld and beyond. Depending on how many other fires might be going in other parts of the state, crews and equipment could be brought in from other districts and regions. According to MFS District Ranger George Harris, “If further assistance was needed the WMNF, NH Forest Rangers and the Northeastern Forest Fire Protection Commission could be utilized for manpower and equipment.” A one hour response time on the ground would be considered average for a local Ranger.

The Maine Forest Service also has helicopters stationed in Augusta and Old Town that are available for initial attack in the event of a large wildfire. Response times will be affected by availability of responders and resources.

Regional evacuations, with advance warnings, may be required for very large-scale wildfires. Wildfires will most likely have multiple hours of advanced warning for evacuations. The Municipal Officers have the authority to order evacuations within their Communities; however, they must coordinate their order with the County EMA office so that the County EMA Director may organize the evacuations among all the municipalities that are affected.

The most likely evacuees of wildfires will be home and camp owners and they will require sheltering. (AUEMA)

Local fire departments would benefit from grants to update wildland fire fighter PPE and purchase of all-terrain vehicles or utility vehicles equipped with 20 gallons tanks. Potentially a type 6 engine could help with the lack of water around Taylor Pond. ATV’s and UTV’s would allow the local fire departments to access fires that occur on or beyond soft road beds. In addition fire departments could invest in hand tools and leaf blowers for fire line construction.

The Maine Forest Service is available to conduct wildfire training to local fire departments throughout the state. Many classes have been held over the years and are available today.

#### NFFPC:

The mandate of the Northeastern Forest Fire Protection Commission or “Compact” (NFFPC) is to provide the means for its member states and provinces to cope with fires that might be beyond the capabilities of a single member through information, technology and resource sharing (mutual aid) activities. Members include all the New England States, New York, the Provinces of New Brunswick, Quebec, Nova Scotia, Newfoundland, and Labrador, plus the New England Forest which includes the White, Green and Finger Lakes Forests. This Compact was assembled, (one of the first in the country) to bolster fire suppression capabilities, as well as meeting training needs. Equipment and manpower are often called upon during the forest fire season, greatly increasing each member's fire fighting arsenal.

### **Methodology**

In November, 2017 MFS personnel and Auburn Firefighters performed structural and vegetative assessments at locations which were randomly selected within Auburn around Taylor Pond. The structural assessments were taken in the interface regions of the community and not in community centers.

The structural assessment form, developed based on NFPA Standard 1144, asks questions concerning the following major categories: elevation, slope, and aspect; roads/signage; defensible space and surrounding vegetation; building material; structural density, utility placement, water availability and fire department response time. Vegetation assessments examine vegetation type, fuel bed depth, fuel density, and canopy cover. Once completed, the information from the assessment forms is analyzed to calculate risk for individual structures and an overall rating of the potential risk from fire in the WUI for Taylor Pond.

### **Structural Factors**

Each structural assessment consisted of a survey of 23 questions to determine a structure's risk from wildfire. The level of risk associated with each factor's quality was given a numeric score, and the total of these points produced an overall score (ranges from a minimum of 9 points to a maximum of 171 points). The potential risk for each structure can be categorized as "low" (9 – 42 pts.), "medium" (43 – 85 pts.), "high" (86 – 128 pts.), or "highest" (129 – 171 pts.). The structural factors assessed are discussed in detail below.

**1) Elevation, Slope, and Aspect:** Variations in elevation can be a concern if elevation varies greatly in a given area. This can result in increased slope. Slope is important to consider because fires can spread quickly as convection heat and embers from an approaching fire rise uphill, drying and igniting fuels. South and west facing slopes tend to be drier and warmer than north and east facing slopes due to sun exposure, generally making fires more active. A structure in an area with steep slopes (a grade of 41% or greater within 300 feet) would be assessed 9 more points than a structure on flat ground. In addition, a structure should be set back at the very least 30 feet from the top of a slope of 30% or greater. A fire is at its most intense when at the top of a hill because it gains heat and momentum as it travels up a hill. As the fire encounters flat ground the intensity will usually lessen. A structure at the top of a steep slope with no setback will bear the brunt of the fire at its greatest intensity. A building not set back from the top of a slope of 30% or greater would receive 4 additional points for a total of 13 points relating to slope.

**2) Roads/Signage:** Community roads are assessed for their width, condition, surface material type, proper signage and turnaround space. Roads that are unsatisfactory in these criteria may impede the access and maneuverability of emergency vehicles in the event of an emergency. Inadequate access roads may also become cut off by fire, preventing evacuation of residents and eliminating the ability of fire crews to defend lives and property. Narrow roads will not allow two emergency vehicles to pass or in some cases not allow ingress by emergency vehicles while allowing egress to fleeing civilians. Clear and consistent signage on roads, houses, and driveway entrances is important in aiding response time for fire crews. As many as 28 points can be added to a structure's assessment due to unsatisfactory road and sign conditions.

**3) Defensible Space and Surrounding Vegetation:** Defensible space around a structure is one of the most important factors in the WUI, as it can prevent flames and radiant heat from igniting the structure and provides room for firefighters to fight the fire.

A few trees may still be kept inside the defensible space; however falling embers may still pose a problem. Vegetation inside the defensible space, including long grass, woody debris, needle and leaf litter and ladder fuels is extremely important to eliminate as it can aid in the spread, speed, and intensity of wildfire near a structure. Inadequate defensible space and the surrounding vegetation can add 50 points to an assessment score.

**4) Building Materials:** Combustible building materials, such as wood siding and cedar roofing material, can greatly increase the risk of a structure fire, while fireproof materials reduce the risk of ignition. Wood shingles and vinyl siding are considered combustible and not as safe as brick, fireproof, or treated siding material.

Roofing materials are rated as either class A, B, or C based on composition and their burn time before ignition. Class A materials combust in 2 to 4 hours and are the safest if installed properly. These include asphalt, metal, slate, fiber-cement, and clay. Class B materials combust in 1 hour and include pressure treated wood shakes and shingles, and Class C materials combust in 20 minutes and are untreated wood shakes, shingles, plywood, and particle board. Although rated the best, Class A materials typically need an additional layer of insulating material, as they can conduct heat onto other surfaces. Roofing material can contribute up to 25 points on a single assessment.

**5) Structural Density and Utility Placement:** Open decks can create fire hazards because leaves and needles, which are prone to ignition from falling embers, often accumulate on and under them. Wood stacked on, near, or under a deck can also provide more opportunity for ignition of a wildfire.

Additional structures surrounding a home, such as sheds and garages that catch fire, can aid the spread of the fire if they are built close to one another. Outside utility tanks that are above ground can also pose a very dangerous hazard to firefighters and to structures in the event of a wildfire, as can above ground electrical wires. Improperly placed outbuildings and utilities as well as open flammable decks with woodpiles can contribute up to 15 points to an assessment.

**6) Water Availability and Response Time:** Proximity to pressurized hydrants and other water sources, such as dry hydrants, as well as fire department response time are considered in structural assessments. Faster response time and nearby water availability will decrease a structure's at-risk rating. Inadequate water supply and increased fire department response time can add up to 12 points to an assessment.

### **Vegetation Factors**

Vegetation assessments were conducted in randomly selected plots to determine both susceptibility to and intensity of wildfire if it occurs in one of these areas. These assessments do not contribute to the overall Community rating, but do provide a good indication of the vegetation expected to be in the WUI areas. The four categories in the vegetative survey include fuel bed depth, fuel density, canopy cover, and vegetation type. Each attribute is rated with a "low", "moderate", or "high" rating based on how it would contribute to the possibility of wildfire start, spread, and/or intensity. The factors analyzed in vegetation assessments are described in more detail below.

**1) Vegetation Type:** The type of vegetation present will influence the type of wildfire and its behavior. Hardwood trees and shrubs are more difficult to burn due to their high moisture content and lack of volatile compounds such as resins. Grasses can burn very quickly in the spring and fall when dry conditions exist. Coniferous species are the most dangerous, burning readily due to their high concentration of flammable resins.

**2) Fuel Bed Depth:** The fuel bed is the layer of organic matter on the forest floor. Fuel beds include the leaf litter as well as the layer of soil mixed with organic matter underneath the litter. These beds can support ground fires which are typically slow moving and hard to detect. The deeper the fuel bed depth, the longer these fires will burn. Deep fuel beds found in swamps are usually too moist to support fires, but in dry seasons they can pose a significant threat and in peat beds, fire can persist for months.

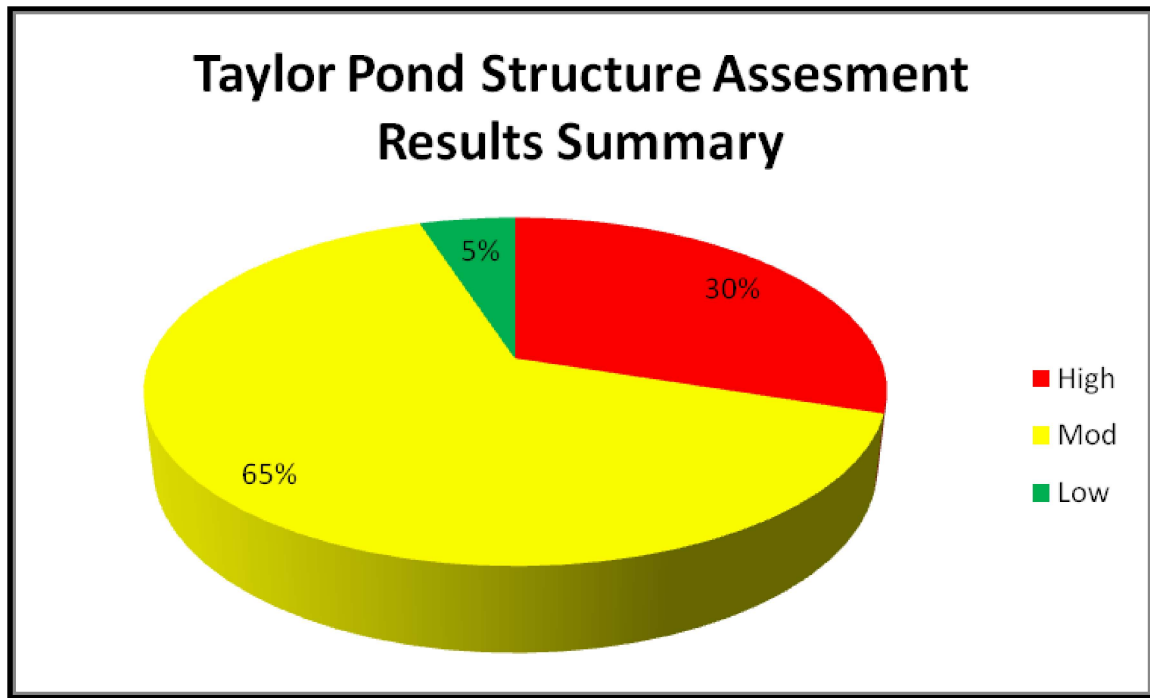
**3) Fuel Density:** Fuels such as downed and dying woody debris and ladder fuels can greatly contribute to the intensity and life of a wildfire. Greater density can create increased continuity in fuels, and can help wildfires move rapidly for long distances.

**4) Canopy Cover:** Dense canopy cover can be very hazardous in the event of a wildland fire. A canopy fire, otherwise known as a crown fire, occurs when fire reaches treetops, and is considered the most dangerous condition. In this case, the fire is typically fast moving, intense, and is very difficult to control.

## **Results**

In November 2017, twenty structural assessments and four vegetative assessment plots were randomly selected throughout the wildland urban interface area of Taylor Pond area. The results were then analyzed to determine an overall rating of potential risk for fire in the WUI for Taylor Pond.

**Based on the assessment results; the average structural assessment score in Taylor Pond was 75 which falls into the higher end of the ‘moderate’ risk level. The scores ranged from 38 to 97.** The following graph illustrates the breakdown of scores by ratings.



#### Location and Structural Assessment Concerns

The following factors were found to be of varying degrees of concern while performing the WUI assessment for Taylor Pond.

**Elevation, Slope, and Aspect:** 25% of the camps/homes assessed were on slopes of 10% to 40%. Areas of increased slope that could promote rapid wildfire spread and should be noted by the fire department as areas of increased risk to fire spread, and by citizens as areas to increase defensible space.

**Access Roads/Signage:** Access is a problem found throughout Taylor Pond. 95% of the homes have only one access road, which is usually less than 24 feet in width. 80% of the homes were on gravel roads; all less than 20' wide. Water View Drive is particularly narrow. Dead ends are common. 95% of structures assessed were on access roads greater than 300 feet in length with no turnaround. These roads may reduce the accessibility to the area by fire equipment. 30% of homes assessed lacked visible signage. All of the homes did have numbers posted on structures or mailboxes. However, 30% were not visible from the road and should be improved. **New developments should ensure that roads are wide enough for rescue vehicles, have turnaround space, and more than one entrance.** Road accessibility in the event of a wildland fire is a concern; most of the roads are not designed for fire equipment. During the spring fire season some of the roads are too soft to allow larger fire trucks to access the many camps and homes. In addition, many of the roads do not allow for public egress as firefighters move in with heavy equipment. Water access is a concern in areas where hydrants are seasonal dependant on spring fire season dates. Potentially a 4 wheel drive type 6 engine could help in this area or with additional dry or pressurized hydrants.

**Defensible Space and Surrounding Vegetation:** Defensible space caused the biggest concern for safety of homes/camps found within the Taylor Pond WUI. Only 10% had seventy-one feet or more of defensible space, the required amount for a low hazard rating. Of the sampled homes, 30% had thirty to seventy feet of defensible space, which is classified as a medium rating, and 60% of homes had less than thirty feet of defensible space, which rates as a high risk for homes in the WUI. Defensible space should be considered one of the highest priorities for remediation, especially in areas of increased slope.

In addition, 65% of the homes and camps assessed had a moderate to high rating for hazardous vegetation in the area surrounding the structure.

**Building Materials:** Siding materials throughout Taylor Pond were predominantly combustible with a moderate rating, however almost all homes had roofs of Class A non-combustible material. Residents should still be reminded to clear roofs of leaf litter, debris, and ensure shingles are not in disrepair. 55% of structures assessed had moderate to heavy accumulation of roof litter. It should also be noted that open wooden decks were observed at 80% of assessment sites. These additional structures elevate the at-risk level for a home because they often accumulate leaves, needles, and other debris in the same places that would accumulate embers if a wildfire were approaching. See the suggested actions section of this report for ways to reduce the risk.

**Structural Density, Utility Placement, & Wood Piles:** Areas where homes are built close together should try to maintain low vegetation density and good defensible space to reduce the chance for wildfire to spread from home to home.

Above ground utility tanks were quite common throughout Taylor Pond. These homes and camps should consider the guidelines for proper spacing of these tanks found in the suggested actions section of this report.

10% of the structures assessed had wood piles within 30 feet of the home. 5% had wood piled against or touching the structure.

**Water Availability:** Within Taylor Pond area, there are a few obvious sources of water available. These include, but are not limited to, Taylor Pond, 653 acres, which could be utilized in the event of a fire. The inconsistent availability of water is an issue in need of being addressed, however. 30% of the homes assessed were over 1,000 feet from a hydrant or natural water source. There are seasonal pressurized hydrants within sections of Taylor Pond; some areas are without readily available water.

## In-Community Structure Examples

### **Good Defensible Space:**



Left: This house within Taylor Pond has good defensible space. The grass is kept short and green. Although the siding is flammable, it is in good condition. The roof is covered with Class A asphalt. This home has a good chance of surviving a fire because there is enough space between the home and adjacent vegetation. The house is not likely to ignite due to direct flame contact or radiant heat. There is also ample room for firefighters to safely fight a fire.

### **Poor Defensible Space:**



Left: Note the lack of defensible space at this seasonal structure. The main roof is asphalt, but the siding and nearby softwood vegetation is highly flammable. The open area underneath the camp should be enclosed with non-flammable mesh to prevent leaves, needles, and embers from accumulating and igniting it. Deck could be treated with flame retardant chemicals or replaced with less flammable material. An adjacent storage building is within the defensible space of the house and could aid the spread of a fire.





Left: Several structures (seasonal, abandoned, or minimally used) observed during the wildfire risk assessments lacked adequate defensible space. Accumulation of high grass and shrubs, abandoned buildings, and debris in areas immediately adjacent to homes present a hazard.

#### **Poor Access:**



Left: An access example in Taylor Pond is a narrow, dead-end road with limited turnaround options. As there is only one way in and out this could present an issue during a wildfire event, as people are trying to evacuate while response vehicles attempt to access the area.



## **Vegetation Plot Assessment Concerns**

**Vegetation Type:** The vegetation field assessments for Taylor Pond indicated a fairly diverse forest with a mixture of both deciduous and coniferous species as indicated by the 4 plots surveyed:

- Mature white pine/young hardwoods/oak
- Mixed hardwood growth with softwood snags
- Ash-Maple overstory/Alders/Pine regen
- Oak-Birch-Pine/Sparse White Pine regen

Here, the vegetation plots sampled were 50% at a moderate rating, and 50% were at a low risk level. Stands dominated by coniferous trees are faster and more intense burning than deciduous. Dead standing trees and ladder fuels help promote more intense fires.

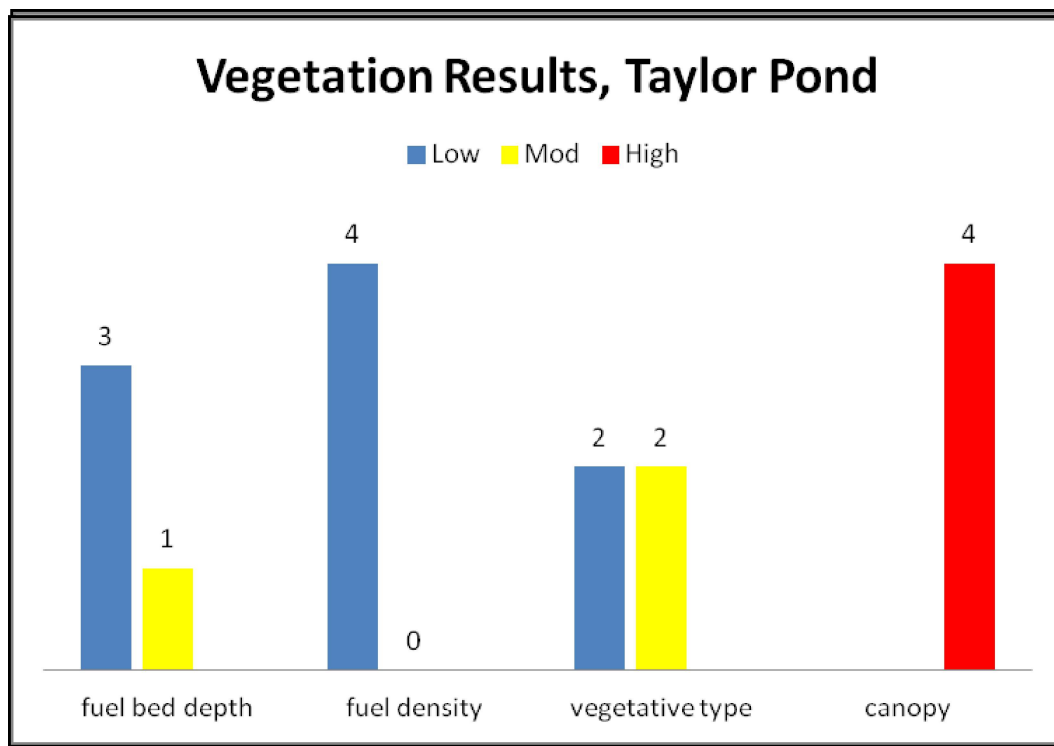
**Fuel Bed Depth:** Within Taylor Pond, 25% of the vegetation plots assessed had a medium rating with fuel beds of 3.1 – 7". These depths could support substantial ground fire. 75% were rated low with fuel beds less than 3".

**Fuel Density:** All of the slash and ladder fuels were assigned a low rating. Areas around Taylor Pond with higher density could support more intense burning and rapid fire spread.

**Canopy Cover:** All of the vegetation assessments were assigned a high rating for dense canopy cover. Since most fires in Maine are surface fires, some experts believe a closed canopy actually reduces the risk of wildfire. The canopy blocks sun and wind and can keep the needles and leaves from drying out. In contrast areas with a closed canopy could support a fast moving crown fire, especially if they are conifers. As seen during the 1947 fires in Maine, crown fires are very hard to control.



See the following graph for a representation of vegetation assessments, and the accompanying map for vegetation cover type:



### **In-Community Vegetation Examples**

Taylor Pond has several different forest fuel types. Some of the more densely covered areas with ladder fuels would support intense fires. Areas cleared of fine fuels and ladder fuels have a much better chance to survive a wildfire.

### **Summary**

Lack of defensible space, inadequate roads and signage, and inconsistent water availability are of the highest concerns for Taylor Pond. Campfire use is a concern and while legal when attended is illegal when left unattended. Fireworks are illegal in Auburn but are still used at times around the pond. Both fire causes increase as wind and dry forest fuels increase. Dense tree canopy and types of vegetation found in the unoccupied vegetation plots in the area is also a concern. Abandoned buildings with forest fuels leaning on and around them pose an elevated risk of spreading wildfire. By following the suggested actions to improve these areas, the potential risk for catastrophic wildland fire, loss of property and life can be greatly reduced. If actions are not taken now, they should be taken when building new developments and sub-divisions.

## **Suggested Actions**

The following is a list of actions that can be taken to increase the safety of homes in the WUI. Community residents should be encouraged to carry out some of the following actions, as homes with high risk are less likely to be a high priority for protection and less likely to survive.

Some of the following actions also apply to community and fire department officials. Current and new residents should be made aware of these suggestions whenever possible, and any new developments should apply Firewise-building practices.

Community officials and the fire department should review sources of federal and state funding for improving emergency response equipment and staff.

### **Increasing Defensible Space around homes:**

- Maintain well-watered green lawns 30 feet around homes.
- Thin trees, especially conifers.
  - 10 feet between crowns.
  - Prune lower branches of conifers to a minimum of 15 feet.
- Remove downed and dying woody debris, leaves, needles etc. within 30 feet of homes.
- Have power companies prune vegetation within 10 feet of power lines.
- Replace coniferous shrubs with non-flammable plants.
- Trim branches at least 20 feet from chimneys
- Move woodpiles out of defensible space/away from structures.
- Trim overhanging branches from around homes.
- Maintain at least 30 feet of non-flammable vegetation around outbuildings.

***Before removing any vegetation, make sure there are no state, local or home association laws, rules or regulations that prohibit you from doing so.***

### **Improving Structural Hazards:**

- Clear gutters and roofs of dead needles and leaves.
- Remove trees along driveways and prune overhanging branches above driveways to ensure they are at least 12 feet wide with 14 feet of overhead clearance for easy access by fire trucks and other emergency vehicles.
- Structure numbers should be at least 4 inches tall and visible from road.
- Clear vegetation away from house numbers.
- Have at least 100 feet of garden hose attached to an outside faucet.
- Treat combustible building materials such as decks, porches, and cedar shingles with flame retardant chemicals.
- Enclose combustible decks to avoid accumulation of dead leaves and needles.
- Replace combustible siding and roofing materials with non-combustible materials.
- Install screens over louvers, vents, and chimneys to avoid spark entrance.

- Relocate propane tanks at least 10 feet from structures. Maintain at least 10 feet of non-flammable vegetation around them. Propane tanks vent through a relief valve when they get hot. Venting gas can then ignite, consuming nearby structures.

#### **Personal Actions:**

- Follow all burning rules and regulations.
- Compost leaves instead of burning.
- Have an emergency action plan in case of fire, both for individual families, renters and for the community as a whole.
- Have fire extinguisher available.
- Consider a sprinkler system for use in spring fire season or extra dry fall fire season.

#### **Community Officials/Fire Department:**

- Train appropriate personnel in wildland firefighting through the Maine State Wildfire Training Academy. The S130/190 course trains fire fighters in wildland fire suppression. Other courses are also available.
- Install more dry hydrants in the Community. This will help to ensure adequate water availability in the event of a wildland fire in the area. The Maine Forest Service Volunteer Fire Assistance Program may be able to help with funding for additional dry hydrants.
- Expand pressurized hydrant system where feasible.
- Acquire a tank truck capable of shuttling water if dry hydrants are not available. Water on wheels is a great way to provide fire protection when access is limited on some roads. Consider size and type of truck needs, two or four wheel drive.
- Always encourage/incorporate Firewise building practices in new developments and subdivisions. This could involve the installation of cisterns or farm ponds with dry hydrants.
- Install highly visible signs on all streets including fireworks and campfire use info.
- Widen roads to at least 24 feet wide or build turnouts to allow for 2-way emergency traffic flow and easier evacuation.
- Keep road clearance to a 14 foot height if possible to allow for emergency vehicles.
- Construct and/or improve access roads.
- Build gravel turnarounds to accommodate fire trucks.

#### **Some Key Points:**

**Fuel conversion** refers to the replacement of certain types of vegetation with less flammable species. This process lowers the fire hazard while maintaining some of the aesthetic values many WUI residents desire. While no plant is fireproof, there are some plants that have characteristics that minimize their flammability. A list of plants that have been approved by the MFS for use in WUI settings can be found in appendix section of this report.

**Fuel reduction** is a fundamental tool for wildland fire prevention. It involves removing living and dead vegetation. Reduction can range from pruning the trees in the defensible space to thinning or clearing large tracts of wildland. This can be accomplished through the use of basic

mechanical means such as saws and axes. A licensed forester should be consulted before removing any trees to ensure that trees are removed in accordance with all rules and regulations. Furthermore, only professionals should use fire or chemicals for the removal of vegetation.

## **Suggested Projects**

### **Education and Outreach to Residents**

Educate residents and contractors on the dangers of wildland fire and encourage them to take an active part to reduce those dangers. Promote Firewise-building principles. This can be done through workshops, presentations, etc and through the distribution of Firewise brochures, which can be obtained from the MFS.

These projects will help to ensure that any future building will be done in a manner that will prevent losses of property and lives due to wildland fire. The Community may wish to consider incorporating Firewise-building principles in its building codes, and ensure that all new subdivisions have adequate road access and adequate water supply. Requiring contractors to construct fire ponds in new subdivisions where water is not readily available, as well as constructing alternative access roads could reduce risk.

Attitudes may be the most difficult aspect of WUI fire safety to address. Throughout the state of Maine, the lack of catastrophic fire history has lead to complacency. People are inclined to feel they are close enough to a fire department that even if there is a fire, they will be saved. Still others aren't even aware that there is a danger in the first place. For these reasons, educating the public about the dangers of fire is very important. Any educational program should make people aware of their surroundings and the dangers they contain.

### **Smokey Bear program for children grades K – 5**

Teachers can contact the Maine Forest Service and have a Ranger come to their classroom and talk about fire safety in the woods. Smokey Bear souvenirs are available as well as having Smokey Bear visit the class.

### **Fuel Reduction**

Initiate an annual "Clean-up Day" to encourage residents to reduce fuels around their homes by removing old debris and creating or increasing defensible space. The Community could offer to pick up debris from the roadside, offer free dump days, or keep the dump open more days or longer hours to encourage this clean up. The Maine Forest Service will partner with your community in defensible space projects by providing a wood chipper and operator at no cost to the community.

Fuel reduction is important because it is often the most effective means of reducing a home's risk to damage from wildland fire, as well as one of the cheapest. It is also something that homeowners usually can do for themselves. Most homeowners already have the tools they will need, and if they are physically able to do the work, the only cost is their time. Fuel reduction can be done by open burning of grasses and other fine fuels and chipping or removal of coarse woody debris, as well as moving woodpiles away from structures and cleaning up debris such as

old lumber from around homes. The Maine Forest Service has a prescribed burning program that may be available to assist with open burning.

### **Fire Department Training**

Firefighters not already trained in wildland fire fighting should attend the Maine Forest Service's Wildfire Academy (or equivalent). It is recommended that they complete the S130/190 courses for general wildland fire fighting and the S215 course, which specifically addresses wildland-urban interface fires. The fire department should also maintain a cache of equipment for wildland fire fighting.

### **Potential Sources of Private Funding**

#### **Wildfire Community Preparedness Day**

The National Fire Protection Association (NFPA) offers a \$500.00 competitive grant each spring for communities interested in participating in their annual Wildfire Community Preparedness Day. The grant money can be used for tools such as handsaws, rakes and pruning saws and is designed to help communities work together to reduce brush near structures. Several Maine communities have been awarded this in the past and also used the funding for t-shirts, chipping and or a community cook-out (after the brushwork has been completed). For more information, please visit:

<https://www.nfpa.org/Public-Education/Campaigns/National-Wildfire-Community-Preparedness-Day>

### **Potential Sources of State Funding and Resources**

#### **Volunteer Fire Assistance Program**

This is a cost-share program with federal funds administered by the Maine Forest Service. This program is intended to help rural Communities fight wildland fire. In order to be eligible, the Community must have fewer than 10,000 residents. Only wildland firefighting equipment and PPE qualifies for financial assistance. This includes dry hydrants. Open application period is usually from November 15 through December 31 each year. Contact: Kent Nelson, 287-4989.

#### **Federal Excess Property Program**

This is an equipment loan program administered by the Maine Forest Service for fire services/communities of less than 10,000 residents. Military Surplus equipment is provided to the fire service/community for use on wildland fires. Communities are required to maintain the vehicle and provide proof of liability insurance. Applications are accepted throughout the year. Contact: Kent Nelson, Program Coordinator, at 287-4989.

### **Potential Sources of Federal Funding**

#### **Assistance to Firefighters Grant Program**

This is a Department of Homeland Security program. There are 2 program areas to be considered. First, there is the Operations and Safety Program. Grants issued under this program are for items such as training, equipment, fitness and wellness, and modifications to fire stations. Second, there is the Vehicle Acquisition Program, which includes grants for items such as brush trucks, tankers, pumpers, rescue vehicles and foam trucks. All requests for vehicle grants are submitted through this program area. Applicants may only submit one application under one program area per fiscal year. The application period is usually from March 7 to April 8. For further details, visit the Department of Homeland Security, Office of Domestic Preparedness website at [www.firegrantsupport.com](http://www.firegrantsupport.com).

#### **Staffing for Adequate Fire and Emergency Response (SAFER) Grant Program**

Part of the Assistance to Firefighters Grant Program, this program is intended to help both career and volunteer fire departments to ensure they have adequate staffing. Two activities are covered under these grants: hiring of new paid firefighters, and recruitment and retention of volunteers. If the department chooses to use grant money to add a paid position, the grant will cover a decreasing portion of the firefighter's salary, until the fifth year, at which time the department will be required to cover the full cost of the new position. For more information, visit the Department of Homeland Security's Office of Domestic Preparedness website listed above.

If you have questions or would like additional information, please Contact:

Auburn Fire Department

Phone: (207) 333-6633

or

District Ranger George Harris

Phone: (207) 657-3552

Maine Forest Service – Forest Protection Division

18 A Elkins Lane – Harlow Building

Augusta, Maine 04333

Contact: Kent NELSON OR Cheri Bellavance

Phone: 287 – 4990

Visit the Maine Forest Service at:

<http://www.maineforestservice.gov>

Or visit the Maine Forest Service Website at:

<http://www.maineforestservice.gov/ffchome.htm>



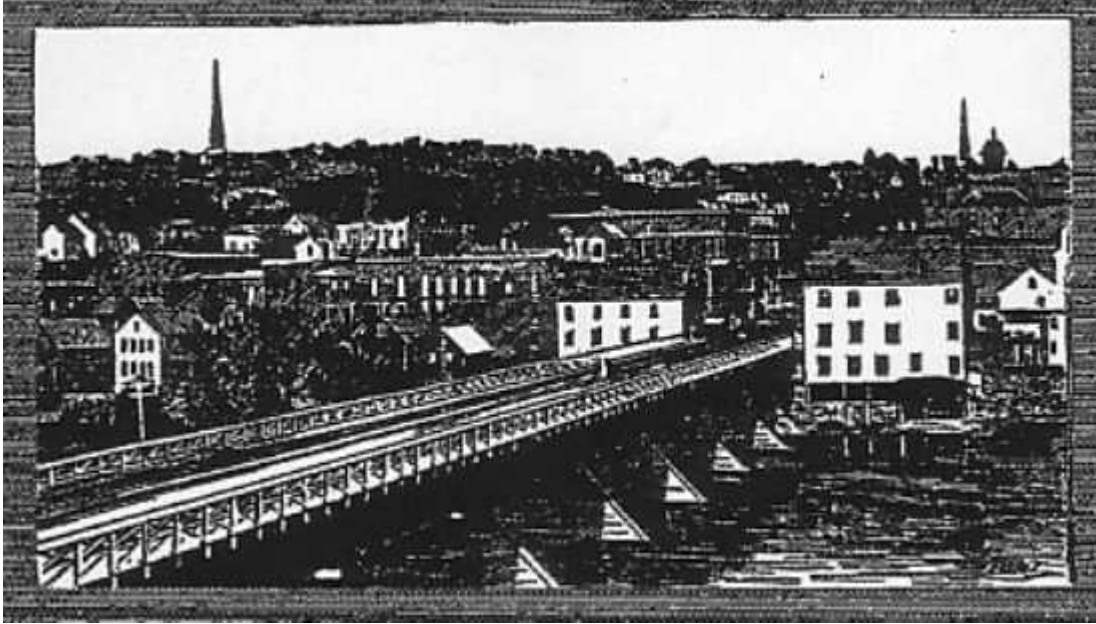
Or visit the Wildland Urban Interface Website at:

<http://www.maine.gov/doc/mfs/fpd/pages/wui/wui.html>





# Appendices



## National Fire Danger Rating System Description

1. **Low.** Fuels do not ignite readily from small firebrands, although a more intense \*-heat-\* source, such as lightning, may start many fires in duff or punky wood. Fires in open cured grassland may burn freely a few hours after rain, but woods fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.

The color code for Low is green

2. **Moderate.** Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open-cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious, and control is relatively easy.

The color code for Moderate is blue.

3. **High.** All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High-intensity burning may develop on slopes, in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small.

The color code for High is yellow.

4. **Very High.** Fires start easily from all causes, and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics; such as, long-distance spotting and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.

The color code for Very High is orange.

5. **Extreme.** Fires under extreme conditions start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the very high danger class (item 4). Direct attack is rarely possible, and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.

The color code for Extreme is red.

Source: Forest Service Handbook, February 1964

## Maine fire-resistant plant list



*This is a partial list of fire-resistant plants that are approved by the Maine Forest Service for use when landscaping within 30 - 100 feet of a structure. Using these plants within the "home ignition zone" can reduce the likelihood of a fire being carried from a forested area to the home.*

*These plants have characteristics that make them less likely to burn in the event of a wildfire, but no trees or plants are entirely resistant to fire. We also advise homeowners to isolate groups of plants in small "islands" of combustible fuels, so that in the event of a large wildfire, they are less likely to allow the fire to spread to a nearby structure.*

*If the homeowner or landscaper desires further information on how to reduce the risk of wildfire near homes, please contact the Maine Forest Service at 1-800-750-9777 or visit [www.maineforestservice.gov](http://www.maineforestservice.gov).*

### Trees

Red maple – *Acer rubrum*  
Sugar maple – *Acer saccharum*  
Mountain maple – *Acer spicatum*  
Striped maple – *Acer pensylvanicum*  
Yellow birch – *Betula alleghaniensis*  
Paper birch – *Betula papyrifera*  
Gray birch – *Betula populifolia*  
American hornbeam/Blue-beech – *Carpinus caroliniana*  
Pagoda dogwood – *Cornus alternifolia*  
Cockspur thorn – *Crataegus crusgalli*  
White ash – *Fraxinus americana*  
Green ash – *Fraxinus pennsylvanica*  
Black gum – *Nyssa sylvatica*  
American hophornbeam – *Ostrya virginiana*  
Bigtooth aspen – *Populus grandidentata*  
Quaking/Trembling aspen – *Populus tremuloides*  
Pin/fire/bird cherry – *Prunus pensylvanica*  
Black cherry – *Prunus serotina*  
White oak – *Quercus alba*  
Northern red oak – *Quercus rubra*  
Black willow – *Salix nigra*  
Basswood/American linden – *Tilia americana*

### Shrubs

Buttonbush – *Cephalanthus occidentalis*  
Sweetfern – *Comptonia peregrina*  
American hazelnut – *Corylus americana*  
Bush-honeysuckle – *Diervilla lonicera*  
Common witchhazel – *Hamamelis virginiana*  
Winterberry/Black alder – *Ilex verticillata*  
Beach plum – *Prunus maritima*  
Chokecherry – *Prunus virginiana*  
Staghorn sumac – *Rhus hirta* (*Rhus typhina*)  
Meadow rose – *Rosa blanda*  
Pasture rose – *Rosa carolina*  
Virginia rose – *Rosa virginiana*  
Pussy willow – *Salix discolor*

## Maine fire-resistant plant list

### Shrubs (continued)

American elder – *Sambucus canadensis*  
Scarlet elder – *Sambucus racemosa*  
Highbush blueberry – *Vaccinium corymbosum*  
Mapleleaf viburnum – *Viburnum acerifolium*  
Arrowhead viburnum – *Viburnum dentatum*  
Hobblebush – *Viburnum lantanoides*  
Nannyberry – *Viburnum lentago*  
Witherod/wildraisin – *Viburnum nudum*  
Highbush cranberry – *V. opulus* var. *americanum* (*V. o.* var. *trilobum*)

### Vines and Ground Covers

Bearberry/Kinnikinnick – *Arctostaphylos uva-ursi*  
American bittersweet – *Celastrus scandens*  
Checkerberry/Wintergreen – *Gaultheria procumbens*  
Woodbine/Virginia creeper – *Parthenocissus quinquefolia*  
Lowbush blueberry – *Vaccinium angustifolium*  
Cranberry – *Vaccinium macrocarpon*

### Perennials

Columbine – *Aquilegia canadensis*  
Blue Flag – *Iris versicolor*  
Violet – *Viola* species

Note: Flowering plants may generally be used, however, the use of tree bark in landscaping should be minimal and always kept moist.

**Grass** – All grasses are acceptable as long as they kept short and watered.

**Ferns** – The use of ferns should be avoided within 30 feet of a structure. In the fall, they can become flammable due to their high surface area to volume ratio.

*Updated: June 29, 2010*

## **Wildland-Urban Interface Fire Fighting Equipment List**

The following is a list of equipment recommended by the Maine Forest Service to be carried by fire departments for use in wildland fires.

- 1200 feet forestry hose
- 50 feet rubber-lined hose
- 2 – 1½ inch gated wyes
- 1 – 1½inch double female fitting
- 1 – 1½inch double male fitting
- 4 – 1½in. multi-setting nozzle
- 5 – forestry spades
- 5 – Pulaskis
- 5 – fire rakes
- 1 – chain saw (16 inch bar with kit)
- 1 – 2½ inch to 1½ inch reducer
- 1 – Mark III (or equivalent) pump with kit
- Vehicle – a fire truck with off-road capabilities is recommended for reaching remote wildland with limited access.

## Helpful Websites

**Compact Wildfire Prevention Team**– [northeastwildfire.org](http://northeastwildfire.org)

**Firewise** – [www.firewise.org](http://www.firewise.org)

**Firesafe Council** – [www.firesafecouncil.org](http://www.firesafecouncil.org)

**Int'l Assoc. of Wildland Fire** – <http://www.iawfonline.org/>

**Maine Forest Service** – [www.maineburnpermit.com](http://www.maineburnpermit.com)

**Maine Fire Weather**- [http://www.maine.gov/dacf/mfs/wildfire\\_danger\\_report/index.html](http://www.maine.gov/dacf/mfs/wildfire_danger_report/index.html)

**National Fire Protection Assoc.** – [www.nfpa.org](http://www.nfpa.org)

**National Interagency Fire Center** – [www.nifc.gov](http://www.nifc.gov)

**National Wildfire Coordinating Group** – [www.nwcg.gov](http://www.nwcg.gov)

**Northeast Forest Fire Protection Commission** – [www.nffpc.org](http://www.nffpc.org)

**U.S. Forest Service** – [www.fs.fed.us/fire/](http://www.fs.fed.us/fire/)

**Smokey Bear** – [www.smokeybear.com](http://www.smokeybear.com)

**Community Valuation – Google-** [property taxes in maine by town](http://www.google.com/maps/place/property+taxes+in+maine+by+town)

**Fire Prevention-City of Auburn, Maine** - [Fire Prevention - City of Auburn, Maine](http://www.auburnmaine.org/fire-prevention)

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