Analysis of

Maine Fire Incident Reports

with

Juvenile Involvement

from 2004-early 2008

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Introduction

A portion of the 2006 Fire Prevention and Safety Grant to the Maine Juvenile Fire Safety Program (Department of Homeland Security Assistance to Firefighters Grant Program) was dedicated to data management and analysis. To better understand the scope of Maine's challenge with juvenile firesetting, looking at both the response and prevention management efforts, it was necessary to undertake a comprehensive review of the Maine fire incident reporting system [MEFIRS, based on the National Fire Incident Reporting System] and the National Association of State Fire Marshall's [NASFM] Intervention intake/screening data collection system. Arson, according to the U.S. Fire Administration, ranks third among leading causes for fires and the second leading cause of fire death in the United States.

> *Data from 1989 through 1993 reveal that among all fires that resulted in the death of a small child, over one-third were caused by children playing [with fire].* (National Fire Protection Association July, 1996)

The results of this study track more than four years of Maine data over a variety of measures related to incident details (type of fire, ignition cause, presence of smoke detectors, etc.). It also documents a need for better reporting in terms of incident- specifics including (but not limited to):

- dollar loss,
- age,
- socioeconomics of persons involved,
- potential motivation factors and
- documentation of appropriate referral to educational programs, mental health services or law enforcement.

From 2004 to early 2008, Maine fire departments reported 1364 fire incidents with juvenile involvement resulting in more than $28,600,528 in total loss, 7 civilian deaths, 48 civilian injuries and 18 fire service injuries [MEFIRS incidents with juvenile arson module record]. Over this same time period, the Maine NASFM intervention data system documented intake of **221 juveniles** who were referred because of fireplay or firesetting behavior, but not as a result of an emergent or incident response.

These numbers also helped track which departments or municipalities are making use of both the MEFIRS and NASFM systems for reporting, since use of the system was voluntary until 2007 (see **Attachment 5a – Maine Statute on Fire Reporting**). It's suspected that the numbers of incidents with juveniles, dollar loss and juveniles treated for fire curiosity or setting behavior are larger than what the data documents. However, for the analysis of specific criteria, the data, unless otherwise indicated, is a large enough sample to be representative of actual events, potentially including those not reported. The study also uncovered areas that require better training or understanding among users for the most accurate data selections.

This data provides a measure of the problem, but also a measure of the current response (and areas ideal for awareness and prevention campaigns). If accurately recorded, a department will be able to measure the number of incidents for which it responded, the individuals served and/or rescued and the amount of property saved, which would undoubtedly be helpful when making the case for funding opportunities.

Maine Juvenile Fire Data by Geographic Analysis

For the purposes of this study, it was important to get a total incident count separated by municipality, geographic region and county to see if any trends emerged for population, socioeconomic census data or other known factors. A map of the Maine reported incidents with juveniles can be seen as **Attachment 1- Maine Fires Ignited by Children 2004-2008**. The full list of towns with incident totals (separated annually) can be seen as **Attachment 2 –Reported Fire Incidents with Juveniles Involved Sorted by Town** Totals, Largest to Smallest.

Figure 1 – Juvenile Fire Incidents by Location (Maine towns)

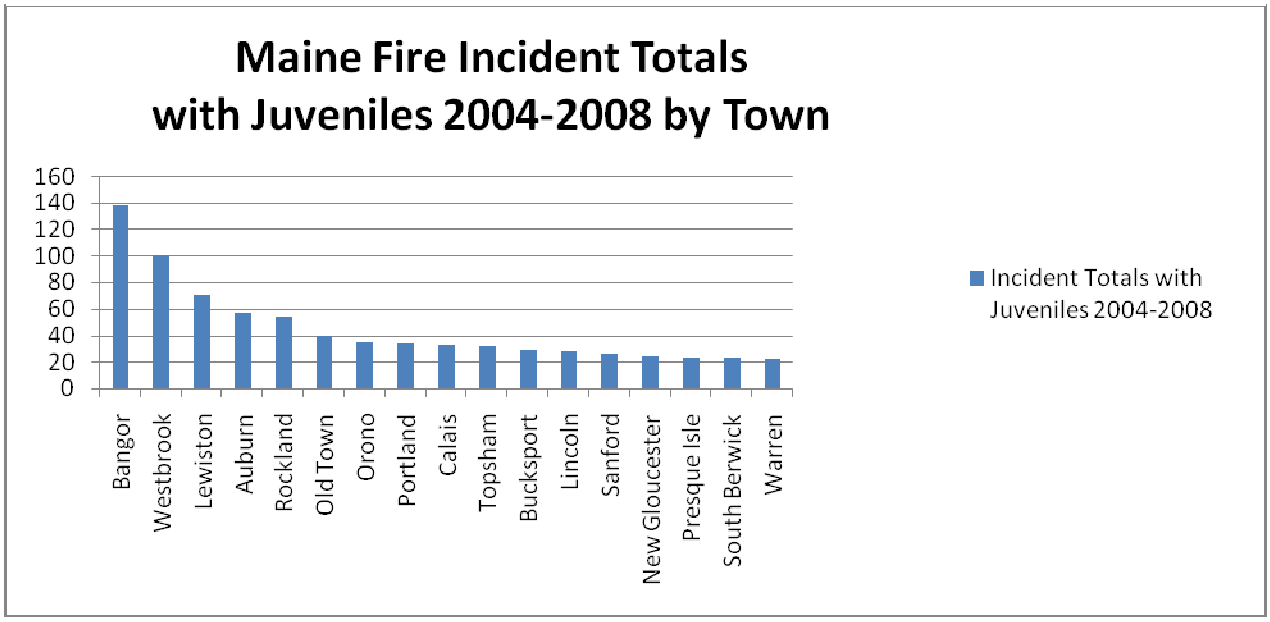
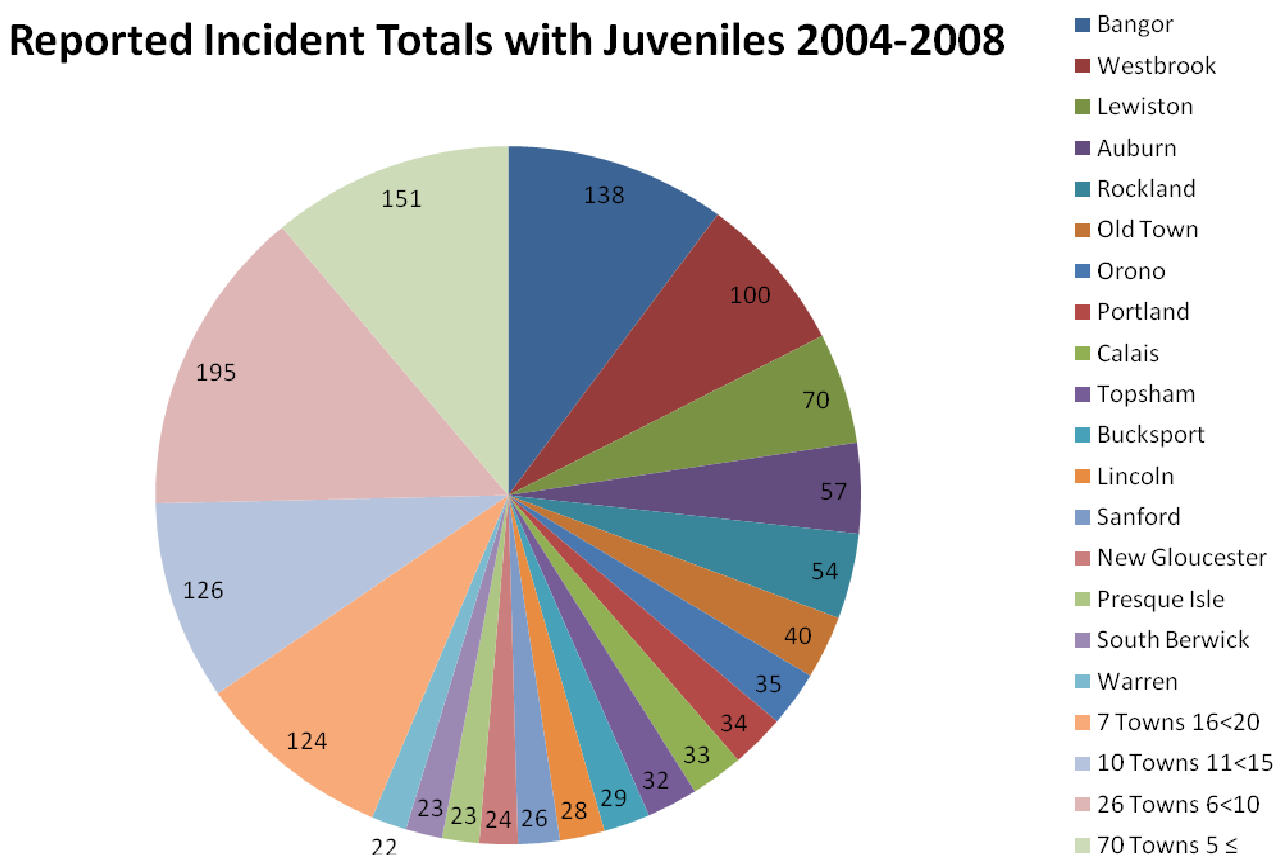


Figure 2 – Juvenile Fire Incident Totals by Maine Town

Town	Maine Fire Incidents (Juveniles) 2004-2008	% of Inc
Bangor	138.00	10.12%
Westbrook	100.00	7.33%
Lewiston	70.00	5.13%
Auburn	57.00	4.18%
Rockland	54.00	3.96%
Old Town	40.00	2.93%
Orono	35.00	2.57%
Portland	34.00	2.49%
Calais	33.00	2.42%
Topsham	32.00	2.35%
Bucksport	29.00	2.13%
Lincoln	28.00	2.05%
Sanford	26.00	1.91%
New Gloucester	24.00	1.76%
Presque Isle	23.00	1.69%
South Berwick	23.00	1.69%
Warren	22.00	1.61%

The municipalities that reported 40 or more incidents account for 34% of all reported fires with juvenile involvement from 2004 through early 2008. The towns with more than 20 incidents (including those with 40 or more) reported account for 57%, 17 towns reporting 11-20 incidents account for 18%, 26 towns reporting 6-10 fires account for 14%, and 70 towns reporting 5 or less fires over this period account for 11% of all reported juvenile fire incidents.

Figure 3 – Juvenile Fire Incidents by Towns (Top Reporters and Towns Represented in Groups by # Reported)



Those municipalities reporting more incidents may be the areas making best use of MEFIRS. These municipalities are the less "rural" areas population and service-wise, and may have a better understanding of the system as well as more resources to devote to recordkeeping.These municipalities show fairly consistent reporting from year to year (although 2008 incident totals were unavailable for most of these municipalities at the time of study).

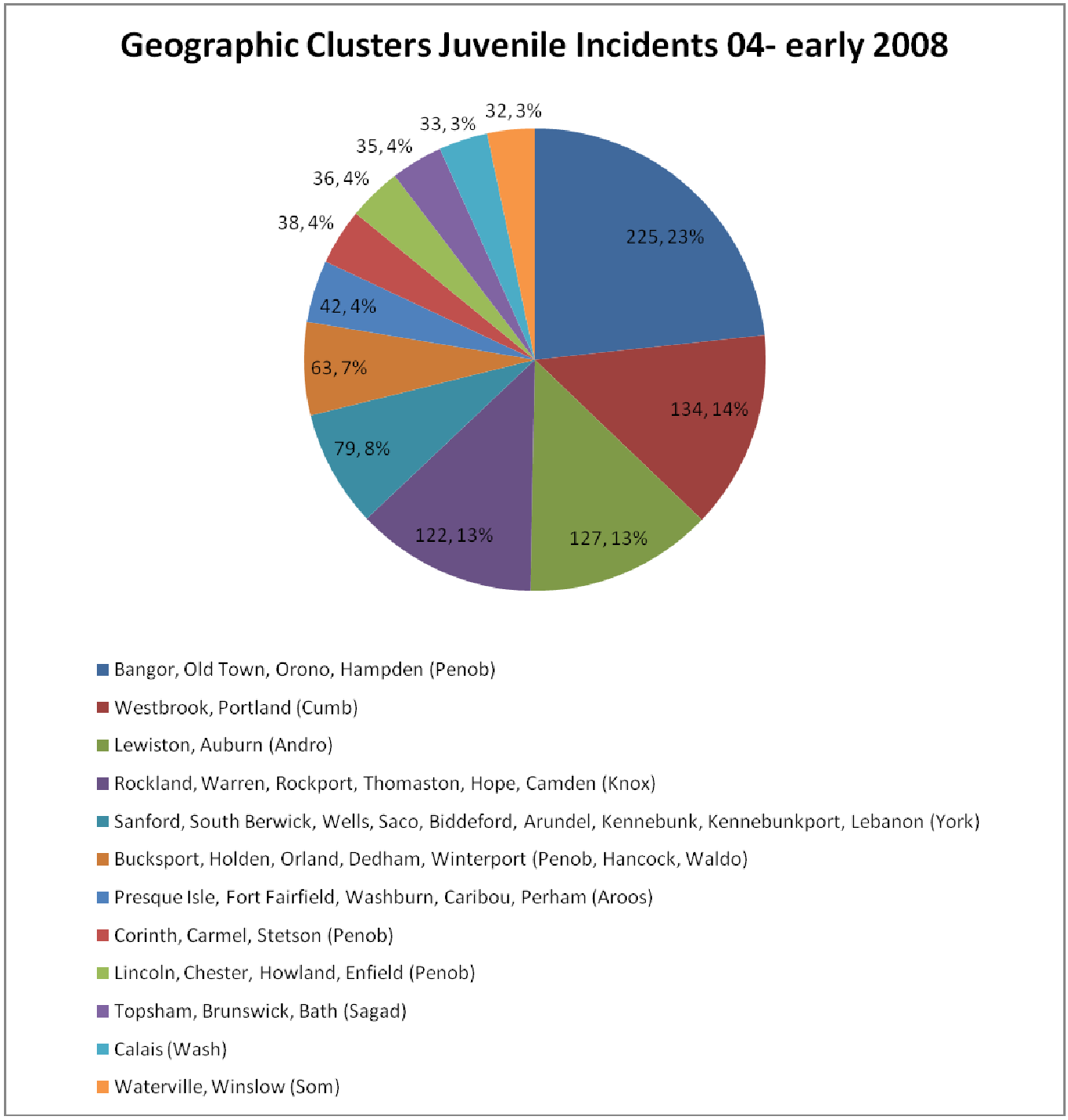
There is some correlation among Maine's top reporters and population. The municipalities with the highest **population rank** (in order) are:

1. Portland
2. Lewiston
3. Bangor
4. South Portland
5. Auburn
6. Brunswick
7. Biddeford
8. Sanford
9. Augusta
10. Scarborough

All but two are in the category of reporting more than 20 incidents with juveniles over the period studied. Due to software import errors, South Portland's data was unavailable at the time of study. Scarborough reported five incidents in 2006 and 2007.

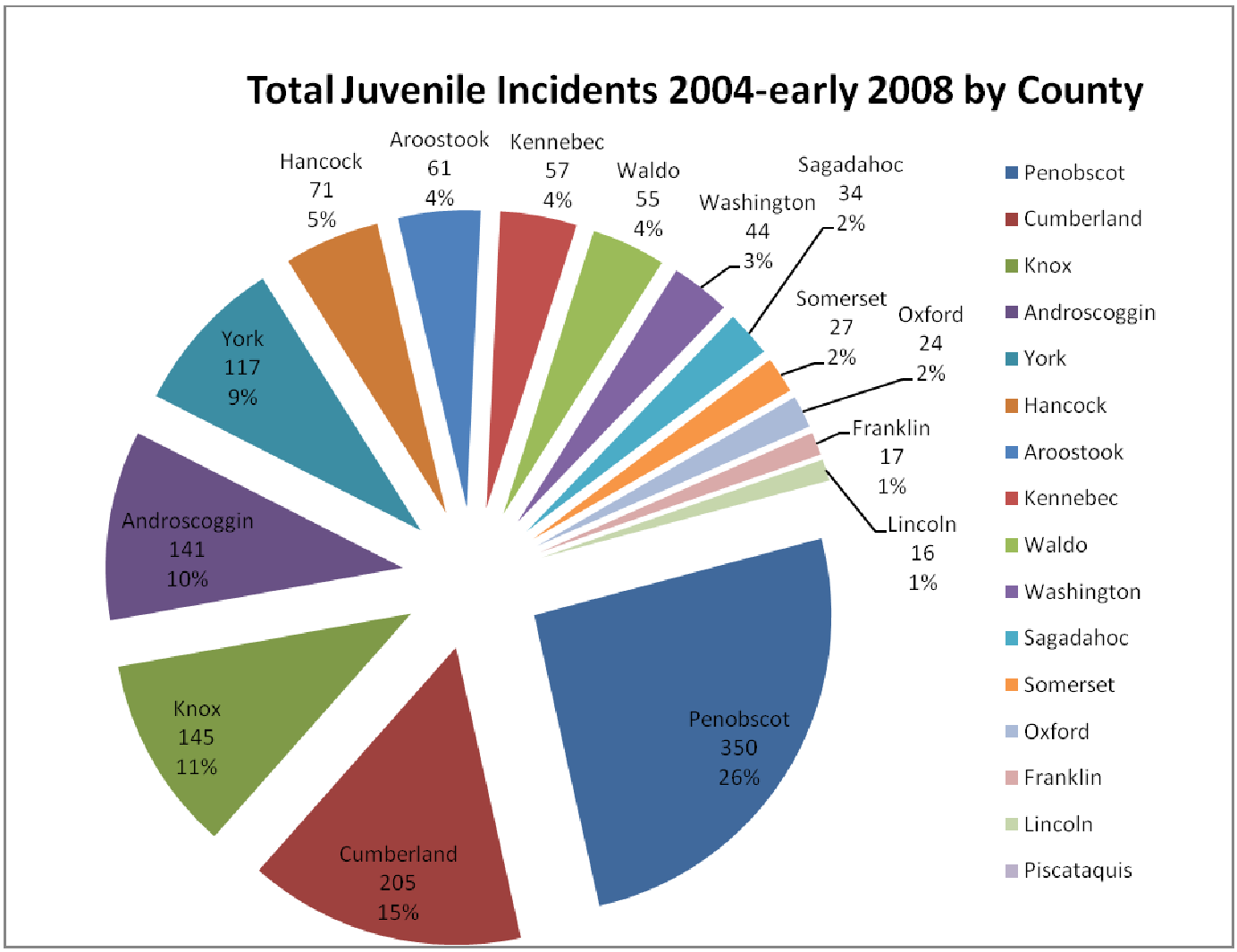
Each of the top-reporter areas is also designated a "Regional Service Center" by the Maine State Planning Office.

Figure 4 – Geographic Clusters of Maine Juvenile Fire Incidents



Since services in Maine are often regionalized, especially for health-related programs, the number of reported incidents was also parceled by geographic clusters. These areas share geographic borders, services and sometimes similar demographics. Together, these “clusters” represent 966, or 71% of the total 1364 reported incidents.

Figure 5 – Juvenile Fire Incidents Graphed by Maine County



Socioeconomic Analysis for Incidence of Fire

The following brief review of research documents fire data, in general, but many of these factors may also correspond with arson and/or juvenile involvement in fires. There is information specific to arson, when available and appropriate. The State of Maine Juvenile Fire Safety & Intervention Protocol *(available through the State Fire Marshall's Office, Maine Department of Public Safety) contains more information relevant to incidence of juvenile fire.*

Other than population count and availability of services, does any other general socioeconomic data correlate to the number of incidents reported? According to a FEMA report (Federal Emergency Management Agency June 1997) "socioeconomic factors are among the best known predictors of fire rates at the neighborhood level." This same study states, "Virtually every study of socioeconomic characteristics has shown that lower levels of income are either directly or indirectly tied to an increased risk of fire."

In the late 1970s, a study took this hypothesis further, finding that the following variables, also related to income, were negatively correlated to fire rates: ***parental presence, poverty,*** *and* ***formal education less than***

eight years, (Schaenman 1977, 54, 57-58). The 1997 FEMA report stated that the Schaenman et al. study also found that the following variables also had some positive correlation to fire rates: ***formal education of high school or higher education, race, home ownership, adequate income, housing crowdedness, housing vacancy,*** and ***age of housing structures.*** Schaenman et al. found other variables not correlated to fire variations: ***one-unit housing structures; unemployment, elderly population,*** or ***long-time residency.***

Arson, as previously stated, is the third leading cause of fires nationally and second leading cause of fire death in all residential fires (NFIRS, 1994). In a 1981 study by Paul Gunther, the relationship between income and arson was the largest predictor (Gunther 1981, 52-58). The 1997 FEMA study states studies have shown higher rates of children "playing" with fire in low income households (Federal Emergency Management Agency June 1997, 28).

Also noted in the 1997 FEMA report was a model by Charles Jennings (Jennings 1996, 105-107), looking at building stock, social/household system, demographics and economics. These variables accounted for 63% variation in residential fire rates. Jennings found income and education were highly positively correlated to fire variation (as these rates rose, incidents of fire dropped).

> Greater understanding of the role played by socioeconomic factors is critical for at least two reasons. First, they have been shown, as reported, to be powerful predictors of the incidence of fire in different types of neighborhoods. Second, Jennings claims that socioeconomic and environmental factors outweigh fire suppression factors, such as fire department resources in determining loss from fires. These losses include both the dollar value of loss property and the rate of injury and death among humans. (Federal Emergency Management Agency June 1997, 7)

Most of the research pertaining to socioeconomic factors and incidence of fire is for urban areas, but many of the hypotheses may also be applied to rural areas of Maine that share similar demographics . Income and education levels are the highest predictors of fire incidence. As the FEMA reports states, many neighborhoods in the U.S. still tend to be segregated by income levels. In higher populated areas of Maine, and in some remote, rural areas, this is also true.

Lower level income neighborhoods have more vacant buildings (where homeless may seek shelter and burn materials for heat), declining neighborhood values (surroundings don't encourage maintenance or development), and higher crime rates (leading to residents blocking or locking escape routes). Older, poor quality housing stock has dated heating and electrical systems, occupants may use unsafe heating alternatives, possess older furniture with less flame-retardant materials, and are less likely to have operational smoke detectors or fire protection devices.

There is also correlation among non-owner-occupied housing (rental units) and greater incidence of fire, although there is speculation as to the reasons (Munson 1983). Owner-occupants, out of a sense of value, may invest more in upgrades or maintenance and exercise more caution in daily living in their own space.

For the rural poor, there is typically a lower level of fire protection services available [FEMA, USFA, 1997. P. 25], which may be due to both the affordability of services and the fact that homes are more remotely spaced, further away from services and/or more difficult to find.

Aside from income, education is highly correlated with fire. The FEMA study states that low literacy rates may impact comprehension of instructions and warnings for safe use of household items and appliances increasing

potential risk of fire [FEMA, USFA, 1997. P. 23]. As stated earlier, there is also a relationship between education and income.

Smoking is the leading cause of fire deaths and injuries [FEMA, USFA, 1997. P. 22]. Smoking is more prevalent in households with lower education and income. Drug and alcohol abuse is tied to the issue of smoking, since careless behavior (while smoking) is increased when intoxicated or tired [FEMA, USFA, 1997. P. 22-23]. It is not known, at present, if there is a higher incidence of children who "play" with fire that live in homes with smokers.

Family structure, or presence of parents, also has an impact on incidence of fire. In single parent households, children tend to be left alone more often (especially in urban areas). There are also increased risks of fire when parents are home, but not actively supervising children. The risks of juvenile fires are slightly greater in low-income housing where appropriate supervision is unaffordable or inaccessible, but all households with children need be aware of the danger and take precaution through awareness and prevention.

Maine Socioeconomic Analysis

Some socioeconomic variables cannot be studied for Maine in the juvenile fire incidence dataset available through MEFIRS since the software fields are often not populated. This information is virtually non-existent in MEFIRS to date, but could potentially be helpful in determining trends or at-risk populations (on average 99% of all incidents with a juvenile arson module from 2004-early 2008 had no entry for age ethnicity, race, gender or family). Through the U.S. Census Bureau, profiles are available for the communities who are using the MEFIRS. Although the data is not available for individual incidents, census data was collected for those municipalities that reported 20 or more incidents within the timeframe studied, as well as socioeconomic data by county. Charts of the findings are available in **Attachment 3 – Socioeconomic Decennial Census Data** for Towns Reporting 20+ Incidents from 2004-early 2008 & Socioeconomic Data by Maine Counties.

The analysis of the socioeconomic data for the towns reporting more fire incidents with juvenile involvement did not yield striking correlations, but may have raised some questions for the future. For the purposes of this study, towns and counties were compared (to each other, state and national averages) across population count, age of population, race, average family size, owner or rental occupied housing units, median home values, education level, percent that speak a language other than English, percent in labor force, median household and family incomes, individuals and families living beneath poverty.

Population

Municipalities with the highest population were previously listed in this report on page 8. There does appear to be some correlation among higher populated areas with higher reporting of incidents. There is some similarity, although not as highly correlated among the counties with higher population and number of reported incidents. Generally, the highest populated counties rank at the top of the list in terms of reporting, and the lowest populated at the bottom of the list; there is some fluctuation in the middle (in comparison of total population rank to rank of reported incident totals).

Age

In terms of age, 7 of the 18 towns reporting high numbers of incidents are above Maine average for percent of population under the age of 18 - Maine's average is 23.6% of the total population is under 18. Only 4 towns were above the national average of 25.7%. However, the top 9 towns (in terms of reported incidents), were lower than Maine's average in terms of youth population. It is unknown, at time of this report, whether

temporary residents were counted -- e.g. college students, out-of-state residents, migrant workers etc. The population under 18 at the county level follows nearly the same ranking (of counties) for total population, so it is difficult to tell whether overall population or the population under age of 18 may be more closely linked to numbers of reported incidents.

Race

In terms of race, Maine is homogenous with an average of its population 96.9% Caucasian when compared to a national average Caucasian population around 75%. The counties don't deviate far from the Maine state average in terms of racial diversity. Washington has the highest level of diversity since 93.5% of its population defines itself as Caucasian. Cumberland (95.7%), Sagadahoc (96.5%), Penobscot (96.6%) and Aroostook (96.8%) follow in terms of racial "diversity." Somerset has the least diversity since 99.1% of its population defines itself as Caucasian. Half of the towns listed (as top reporters of incidents) are slightly more diverse than the Maine average.

Family Size

There is very little deviation from the Maine state average family size of 2.9 (national average is 3.14) among either the towns or counties studied.

Home Occupancy & Ownership

The state average for owner occupied housing units is 71.6%. Hancock county has the largest percentage of owner occupied housing at 83%, and lowest number of rental units at 17% of total housing units. Androscoggin has the least number of owner-occupied housing units at 63% and the highest number of rental units at 36% of its total housing units. Of interest is a measure, per county, of owner-occupied homes that are single family since, by deduction, multi-family owner-occupied units can also be counted. Of Hancock's total housing units (of which 83% are owner occupied), only 65% are single family homes, which means that although 83% of the total housing stock is owner occupied, up to 45% may be multi-family dwellings.

In the state data, there is a range of the percentage per county of single family owner occupied home. Within the percentage of owner-occupied units, 25 to nearly 50% of these units may be multi-family units. Cumberland, Androscoggin and Penobscot counties have higher percentages of rental units (non owner occupied), and also higher reported levels of incidents, though this may be coincidental. Research does indicate homeownership and income are related, and are correlated to fire incidents. Somerset, Waldo, Franklin, Oxford and Lincoln counties have higher percentages of owner occupied, non-single family homes.

When looking at homeownership among the towns that report higher numbers of incidents, the number of rental units stood out since 12 (out of 18) of towns reporting high numbers of juvenile fires has a higher number of rental units than the Maine average of 28.4%. Many of these towns were nearly double this figure in terms of how many housing units were renter (rather than owner) occupied.

Home Values

The national median household value is $119,600, Maine's average is $98,700 (with much variation among counties and/or towns). Cumberland county has the top median household value at $131,200. Six counties, in all 16, have household values greater than $100,000. One, Waldo, is just below at about $90,000. Four Maine counties have averages around $80,000, two at $70,000 and three counties (Washington, Piscataquis and Aroostook) are near $60,000 for median household value. So, 10 of Maine's 16 counties have median household

values below the Maine average and the discrepancy between high and low totals more than $71,000 --- which is higher than the lowest median value! Only 7 out of 18 towns had median home values greater than the Maine average of $98,700. In terms of rank, the towns with the higher median household values did not correlate with the number of incidents or dollar loss (although dollar loss was not always available). It may be of use in future studies to look at value of property by structure fire incident counts (when more data is available) and neighborhood.

Education

For education rates, 7 (out of 18) towns were less than the Maine state average of 85.4% for completion of high school. Only 2 were below the national average of 80.4%. When it comes to completion of a bachelor's degree or higher, 11 towns were below the Maine average of 22.9% and 12 towns below the national average of 24.4%. In fact, 5 towns (of the top reporters) were at 15% or less for their total population who finished a "higher" degree.

In terms of percentage of county population that has graduated from high school, Cumberland ranks first with 90%. Aroostook ranks last with 77% of its population having finished high school. The state average is closer to 85%, national average at 80%.

The national median average for percent of population with a bachelor's degree or higher is 24%, Maine's average is 23%. The range in county percentage of population with a bachelor's degree or higher is 34.2% for Cumberland, mid to low 20th% for Sagadahoc through Waldo counties (according to the rank number of 2-7 in the above chart), dropping to 15.7% and below (all the way to just 11.8% for Somerset county) for Oxford through Somerset, rank 8-16. More than half of Maine's counties have a population percentage of less than 16% who hold higher degrees.

Language other than English at Home

Six towns (Lewiston, Auburn, Orono, Portland, Sanford and Presque Isle) all surpassed the state average of 7.8% for households that speak a language other than English. Only Lewiston (28.2%) surpassed the national average of 17.9%.

Labor Force

Looking at how much of the population is involved in the labor force, 13 of the towns were above the Maine average of 65.3% of total population. Eight were above the national average of 63.9%. In terms of rank of counties for labor force, there does not appear to be a correlation among percentage in labor force and number of incidents reported. Only four counties have a higher than state average of population in the labor force; the lowest level was Washington county at 57% of its population in the labor force and the highest percentage belonged to Cumberland at 69%.

Income

Median household income averages $37,240 for the state and $41,994 for the US. Twelve of the towns were below (six above) the state average. Only 7 of the towns were above the average median family income for Maine at $45,179 (11 fell below this average), and 5 were above the national average median family income of $50,046. In terms of rank order in either family or household income, there was no correlation among the town average income and number of reported incidents. This may also be a field where data by incidents or neighborhood could provide information.

The counties with the highest average range of family income are Cumberland and York, both in the low to mid $50,000, which is also near the national average. Maine's average family income is closer to $45,000, but most counties fall well short of this amount. Those counties ranked 3-10 in family income (out of the 16) have an average family income between $40,000 and $49,000. Counties ranked 11-16 -- Oxford, Franklin, Somerset, Aroostook, Piscataquis and Washington have average family incomes under $40,000 (with the lowest average in Washington county at $31,657).

Poverty

There are several datamarkers to gauge poverty. In this study, numbers of individuals and families living below poverty were recorded, and then translated to percentages of total population (by town, and county). First, is the measure of numbers of individuals and families. With the number one rank assigned to the county with the largest numbers of families or individuals living below poverty, Penobscot county has the most families (3712) and Cumberland county the most individuals (20, 352) defined as living beneath poverty level. These two counties swap places for second ranked, Cumberland county having the second highest ranked number of families in poverty (3527) and Penobscot having the second highest ranked number of individuals in poverty (18,956). Cumberland ranks first in overall population and population under the age of 18; Penobscot ranks third for overall population and those under 18. Generally speaking, the ranks of numbers of individuals or families living beneath poverty follows the ranks of overall population, but Washington county has a slightly higher rank in poverty than population and Hancock county has a slightly lower rank of poverty than population (when compared to other counties' numbers; not in relation to percentage of population within a specific county).

Next, is the measure of percentage of population the numbers represent. On a national basis, between 12.4 and 13.3% of the nation's individuals live below poverty; in Maine the number is slightly lower at 10.9%. The national average for families living below poverty is 9.2%; in Maine, the state average is 7.8% of families. Most of this data is based on year 2000 census numbers and dollar amounts at 1996 inflation adjusted levels. Some of the poverty and income data is from the American Community Survey in 2006. Poverty dollar values are measured by thresholds for family size and composition. Charts and further description can be found pages 69-72 in the "American Community Service 2006 Subject Definitions" at http://www.census.gov/acs/www/Downloads/2006/usedata/Subject_Definitions.pdf.

Washington (19%), Somerset (14.9%), Piscataquis (14.8%), Franklin (14.6%) and Aroostook (14.3%) counties rank highest in the percentage of total population representing individuals living beneath poverty. Only six of Maine's 16 counties are below the state average of 10.9% of individuals living beneath poverty, with Cumberland at the lowest level of its population around 7.9%.

Washington (14.2%), Piscataquis (11%), Somerset (11%), Waldo (10%) and Franklin (10%) counties have the highest average per county population of families living beneath the poverty level. Again, the Maine average statewide is 7.8% for families in poverty. Only seven of Maine's 16 counties are below the state average, with Cumberland and York at the lowest levels of around 5% of their total populations.

In measuring poverty levels, 12 of the 18 towns reporting higher incident numbers had a greater percentage than the Maine average of 7.8% for the number of families living below the poverty level. Eleven of the towns had more individuals living below poverty than the Maine average of 10.9%. There appears to be a possible, general correlation, although not in rank order, of poverty levels and number of incidents.

Maine Dollar Loss

For all juvenile fire incidents 2004-early 2008, dollar loss and values (for property and other materials) was assigned to less than a quarter of all reports. The range is 5% of all incidents for Washington county's reports had financial data to 45% of Cumberland's reports had financial data. Therefore, the data in the next table is only a rough estimate of financial loss and saved property (since property value was assigned even less often than loss). Not enough financial data is present to make informed analysis by county lines. This information is divided by county, but a complete tally of loss and value by town (still separated by county) is available in **Attachment 4 – Juvenile Fire Incident Dollar Loss and Value 2004-early 2008**.

For the towns that reported financial loss (for all incidents that had financial data):

4 < $500
4 < $5000,
12 $19,000<>50k,
4 $51k<>100k,
11 $100k<>200k,
8 $200K,<>400K,
7 $400k<>600k,
5 $700k<>$1M,
3 > $1M
2 >$2M,
1 >$8M total loss

The following towns provided no financial data: Amity, Arundel, Belfast, Bingham, Birch Harbor, Camden, Cary, Charleston, Chester, Codyville, Concord, Corea, Danforth, Enfield, Fairfield, Farmingdale, Fort Fairfield, Friendship, Gardiner, Gouldsboro, Gray, Greenbush, Greenfield, Grindstone, Hanover, Houlton, Howland, Hudson, Jefferson, Kennebunk, Kittery, Kittery Point, Littleton, Mayfield, Medway, Milford, Montville, Morrill, Moscow, New Limerick, New Vineyard, North Waterboro, Northeast Harbor Orient, Orland, Parsonsfield, Pejepscot Village, Perham, Peru, Porter, Pownal, Prospect Harbor, Sabattus, Searsmont, Sedgwick, Sidney, Stockton Springs, Swanville, T16 R4, Topsfield, Turner, TWP 32, Union, Washburn, West Gouldsboro, Weston, Winterport, Woodstock, Yarmouth.

Figure 6 – Dollar Loss & Value for Juvenile Fire Incidents by Maine County

Reported Dollar Loss & Values by Maine County

for Fire Incidents with Juvenile Involvement 2004-early 2008

County Value Property	County Value Other	County Loss Property	County Loss Other	**County Loss Total**	**County Total Value**	loss /value = %loss	% saved of reported figures	**County**	**# of Juv Inc Reported**	# of Inc with $ Loss Total	% of Inc with $ loss total data
13458968	4344176	7950439	3207377	**11157816**	17803144	63%	37%	Penobscot	**350**	119	34%
28283492	5794150	3517850	1388812	**4906662**	34077642	14%	86%	Cumberland	**205**	92	45%
14844460	1536000	2393910	673575	**3067485**	16380460	19%	81%	Androscoggin	**141**	61	43%
1389500	440700	1967000	666500	**2633500**	1830200	144%		Sagadahoc	**34**	10	29%
7435055	1136500	1924565	649100	**2573665**	8571555	30%	70%	York	**117**	43	37%
9205100	2567100	1696000	449600	**2145600**	11772200	18%	82%	Knox	**145**	39	27%
937800	277000	436400	252000	**688400**	1214800	57%	43%	Aroostook	**61**	13	21%
555000	190000	279000	126200	**405200**	745000	54%	46%	Somerset	**27**	9	33%
696675	94550	251500	52000	**303500**	791225	38%	62%	Kennebec	**57**	21	37%
1105500	86700	198400	28700	**227100**	1192200	19%	81%	Hancock	**71**	10	14%
17500	200300	3500	200300	**203800**	217800	94%	6%	Franklin	**17**	3	18%
350000	0	125000	0	**125000**	350000	36%	64%	Lincoln	**16**	1	6%
270200	40400	61200	26400	**87600**	310600	28%	72%	Waldo	**55**	5	9%
107437	20000	30000	10000	**40000**	127437	31%	69%	Oxford	**24**	2	8%
200	0	30200	5000	**35200**	200	17600%		Washington	**44**	2	5%
								Piscataquis			
				$28,600,528.00	$ 95,384,463.00	30%			**1364**		

Figure 7 – Dollar Loss & Value for Juvenile Fires sorted by Maine Towns

Maine Towns

Total Dollar Loss over $250,000

for Fire Incidents with Juvenile Involvement 2004-early 2008

(where data was available, by rank order of largest to smallest)

Town/City	# of Juv Inc Reported	# of Inc with $ Loss Total	% of Inc with $ loss total data	Value Property	Value Other	Loss Property	Loss Other	Loss Total	Total Value	County
Bangor	138	44	32%	6799500	2651945	5831350	2617945	**$8,449,295**	9451445	Penobscot
Westbrook	100	51	51%	18089867	4794550	1818475	1028900	**$2,847,375**	22884417	Cumberland
Lewiston	70	30	43%	2080560	292300	1697310	415075	**$2,112,385**	2372860	Androscoggin
Topsham	32	9	28%	1389500	440700	967000	416500	**$1,383,500**	1830200	Sagadahoc
Bath	1	1	100%			1000000	250000	**$1,250,000**		Sagadahoc
Rockport	20	15	75%	4250400	2081100	791500	281600	**$1,073,100**	6331500	Knox
Auburn	57	31	54%	12763900	1243700	696600	258500	**$955,100**	14007600	Androscoggin
Old Town	40	16	40%	2425510	416750	864779	61750	**$926,529**	2842260	Penobscot
Scarborough	5	4	80%	5702200	15000	826500	1500	**$828,000**	5717200	Cumberland
South Berwick	23	9	39%	4168075	322200	480500	222500	**$703,000**	4490275	York
East Waterboro	3	1	33%	500000	100000	500000	100000	**$600,000**	600000	York
Corinth	18	12	67%	1558250	513501	326250	205701	**$531,951**	2071751	Penobscot
Sanford	26	16	62%	1383565	352750	388765	106750	**$495,515**	1736315	York
Cumberland	17	9	53%	1581200	556100	248800	191300	**$440,100**	2137300	Cumberland
Carmel	16	5	31%	455500	57000	356000	56750	**$412,750**	512500	Penobscot
Bridgewater	7	5	71%	231000	245000	166000	245000	**$411,000**	476000	Aroostook
Rockland	54	9	17%	3940200	40000	391000	10000	**$401,000**	3980200	Knox
Springvale	5	4	80%	473000	226450	233000	166450	**$399,450**	699450	York
Orono	35	27	77%	990600	362830	219901	178231	**$398,132**	1353430	Penobscot
New Gloucester	24	7	29%	327000	68200	220000	64200	**$284,200**	395200	Cumberland
Presque Isle	23	8	35%	706000	30000	270400	7000	**$277,400**	736000	Aroostook
Warren	22	4	18%	225000	50000	225000	50000	**$275,000**	275000	Knox
Wells	11	3	27%	260500	35100	235500	25100	**$260,600**	295600	York

Maine Casualties Resulting from Juvenile Fires

As stated at the beginning of this report, Maine reported 1364 fire incidents with juvenile involvement resulting in more than $28,600,528 in total loss, 7 civilian deaths, 48 civilian injuries and 18 fire service injuries during 2004 to early 2008 [MEFIRS incidents with juvenile arson module record]. These numbers may be small since casualties are more often recorded in a separate emergency management response data system.

Richard Taylor, Senior Research and Planning Analyst, Maine State Fire Marshal's Office, Maine Department of Public Safety, collects data on injuries and fatalities for all fire incidents in the state. His studies show that from 2000-2007, there were 6 juveniles killed in juvenile fires, 18 juveniles killed in all fires. Looking at 2003-2007, which is close to the time period studied in the MEFIRS report, Taylor tallied 8 juvenile deaths in all fires, 4 in juvenile fires.

Joseph. E. Thomas, Assistant State Fire Marshall, State of Maine, has data from 2003-summer of 2008 that shows 11 fatalities, 64 civilian injuries and 27 fire service injuries.

Reporting of Juvenile Fire Incidents Using MEFIRS

Since reporting of fire incidents was not mandated by the state of Maine until 2007, there is great likelihood that the incidence of fire with juvenile involvement is under-reported. The degree, to which the issue is represented, can only be speculated. Please see **Attachment 5a Maine Statute – Fire Reporting**.

The number of fire departments in Maine is 329 according to the U.S. Fire Department census as filed with the U.S. Fire Administration. Those that provided some report, total 217 (for all fire incidents, not just juvenile), which represents about 66% [those fire departments that provided at least one or more MEFIRS reports 2003-2006].

Far less departments have input a MEFIRS reports with a juvenile arson module record from 2004 through 2007, averaging near 55 departments annually submitting reports for juvenile fires. This represents approximately 17% of the total fire departments who may be actively using the MEFIRS juvenile arson module.

Whether this is underreporting or an actual representation of juvenile fire incidents is unknown, but given the total number of incidents recorded, some of the dataset (e.g. property type, seasonality, time of day, area of origin, heat source) is thought to be scientifically representative of the issue.

Reporting of Juvenile Arson Module Records		
Year	# of Fire Departments	# of Locations
2004	66	86
2005	61	76
2006	59	63
2007	36	41
2008 (early)	7	8

Figure 8 – Reporting Locales by Year for Juvenile Fires

For example, according to the chart above, in 2004, 66 fire departments reported juvenile fires in 86 locations. For a complete list of which towns reported in specific years, please see **Attachment 5b – Locations of Fire Incident Reports by Year**.

It's also useful to look at the number of incidents per year by county with the number of incident locations (municipalities) reporting. For instance, Penobscot county has about 86 zip codes

(http://maine.hometownlocator.com/ZIP-Codes/countyZIPS,scfips,23019,c,Penobscot.cfm and 204 "populated places," although many of these are not exact geographic locations (some municipalities have multiple zip codes or may have very small populations). Since the majority of the data was separated out by zip code of the fire incident location, this is also a good way to measure reporting. Of these 86 zip codes, only 21 locations reported juvenile fire incidents over the four plus years studied. The number is less for other counties.

Figure 9 –Reporting Trends for Juvenile Fire Incidents by Maine County

Number of Juvenile Fires Reported (Total =1364)

County	2004	2005	2006	2007	2008	TOTAL 2004-early2008	# of Towns with Juvenile Fire Incidents Reporting
Penobscot	88	103	90	64	6	**350**	21
Cumberland	51	46	49	44	15	**205**	13
Knox	50	46	36	13	0	**145**	10
Androscoggin	21	49	48	23	0	**141**	4
York	29	34	27	22	5	**117**	16
Hancock	12	28	28	3	0	**71**	10
Aroostook	36	10	15	0	0	**61**	12
Kennebec	22	13	5	17	0	**57**	7
Waldo	27	23	4	1	0	**55**	9
Washington	8	9	15	12	0	**44**	7
Sagadahoc	8	7	7	12	0	**34**	3
Somerset	11	8	5	3	0	**27**	9
Oxford	14	10	0	0	0	**24**	4
Franklin	3	5	5	4	0	**17**	3
Lincoln	7	8	1	0	0	**16**	2
Piscataquis							

Since the majority of the data presented over this time period was done on a voluntary basis, the level of detail and/or accuracy is sometimes in questions as well, since often only the "required" fields, or the basic module of the MEFIRS report is populated with data. This is most evident in the "socioeconomic data" at the individual or persons involved level of reporting for age, gender, family type, ethnicity, race, property owner, human factors contributing to ignition and suspected motivation factors.

MEFIRS Data Specific to Juvenile Fire Incidents

For the purposes of this study, the Maine MEFIRS data from 2004 to early 2008 was totaled and then dissected to look at ignition cause, seasonality, time of day, property type and use, area of origin, heat source, material first ignited (including type and form) and detection.

Ignition Cause

When tallying ignition cause, data records were available for 1364 incidents. Unintentional cause counted for more than half of the fire incidents with a juvenile arson module record. Is this a curious entry for arson, or a case where individual software users are separating fire "play" and firesetting? Only 12% were considered intentional, but 31% were under investigation or undetermined at time of report log. It would be interesting to know if additional follow-through found more incidents were caused with intent to burn or by some other factor (curiosity, inebriation, etc.).

Ignition Cause Fires : Juvenile Arson		
Intentional, Misuse	163	12%
Under Investigation	197	15%
Undetermined	213	16%
Unintentional	730	54%
Blank	61	5%
	1364	102%

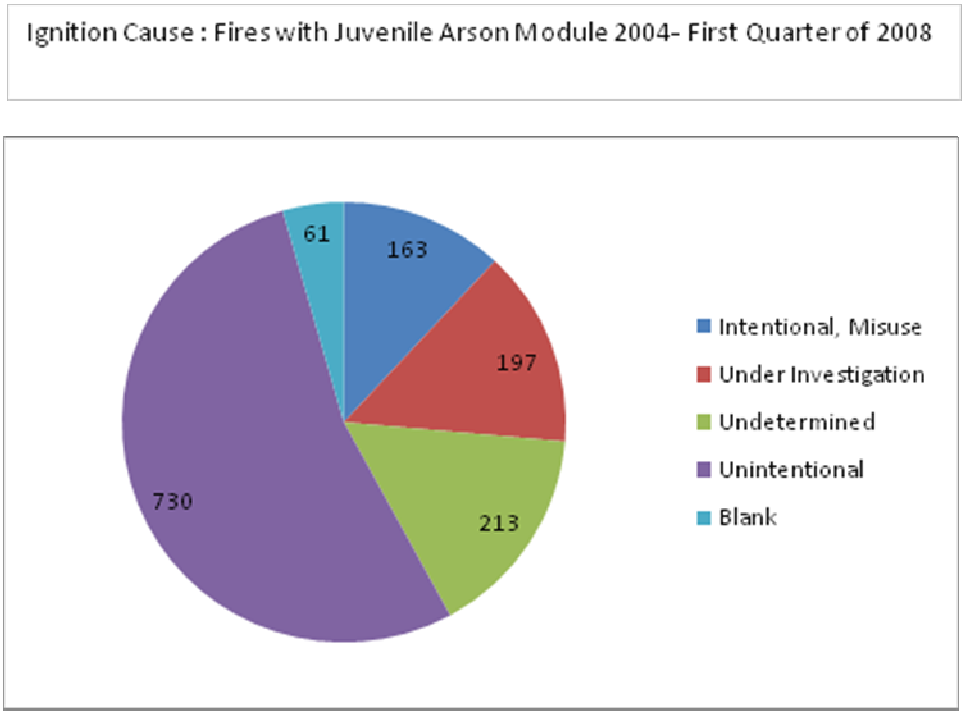


Figure 10 – Ignition Cause

Seasonality and Time of Day for Juvenile Fire Incidents in Maine 2004-early 2008

There does not appear to be much seasonal pattern over the period of time studied for juvenile fire incidents in Maine (whether indoor or outdoor fires). There was enough data to look at 1300 out of 1364 incidents. There is a slight uptick in the number of annual outdoor fires (with juvenile involvement) in April through June.

Figure 11 – Seasonality of Indoor & Outdoor Juvenile Fires

TOTAL Fires with Juveniles Involved (Indoor & Outdoor)

	2004	2005	2006	2007	2008	Total
Jan-Mar	99	95	79	48	26	347
Apr-Jun	90	89	95	52		326
Jul-Sep	94	84	66	61		305
Oct-Dec	82	108	66	66		322
Totals	365	376	306	227		

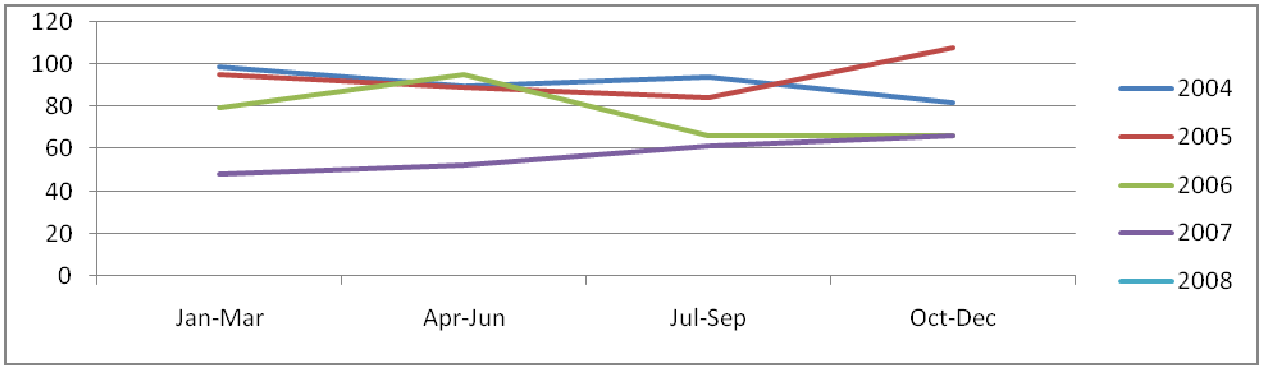
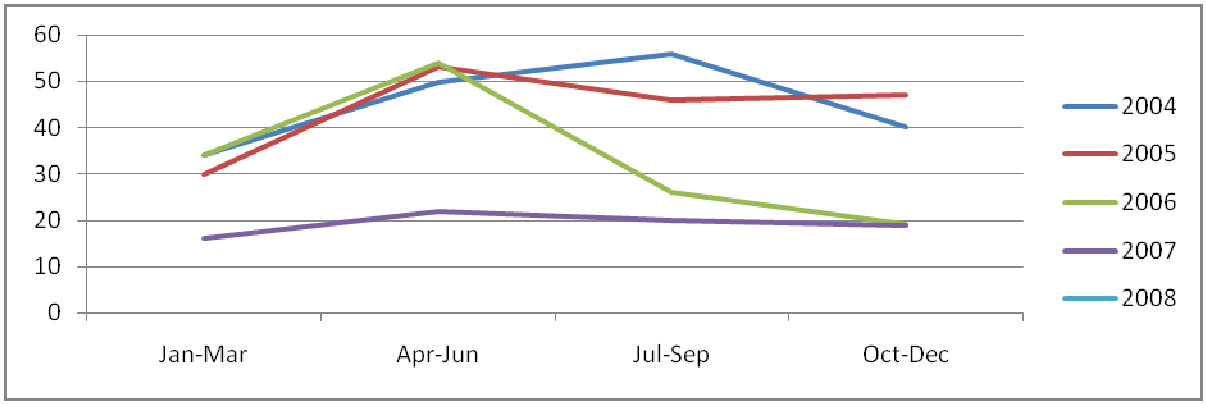


Figure 12 – Seasonality of Outdoor Juvenile Fires

Outdoor Fires with Juveniles Involved

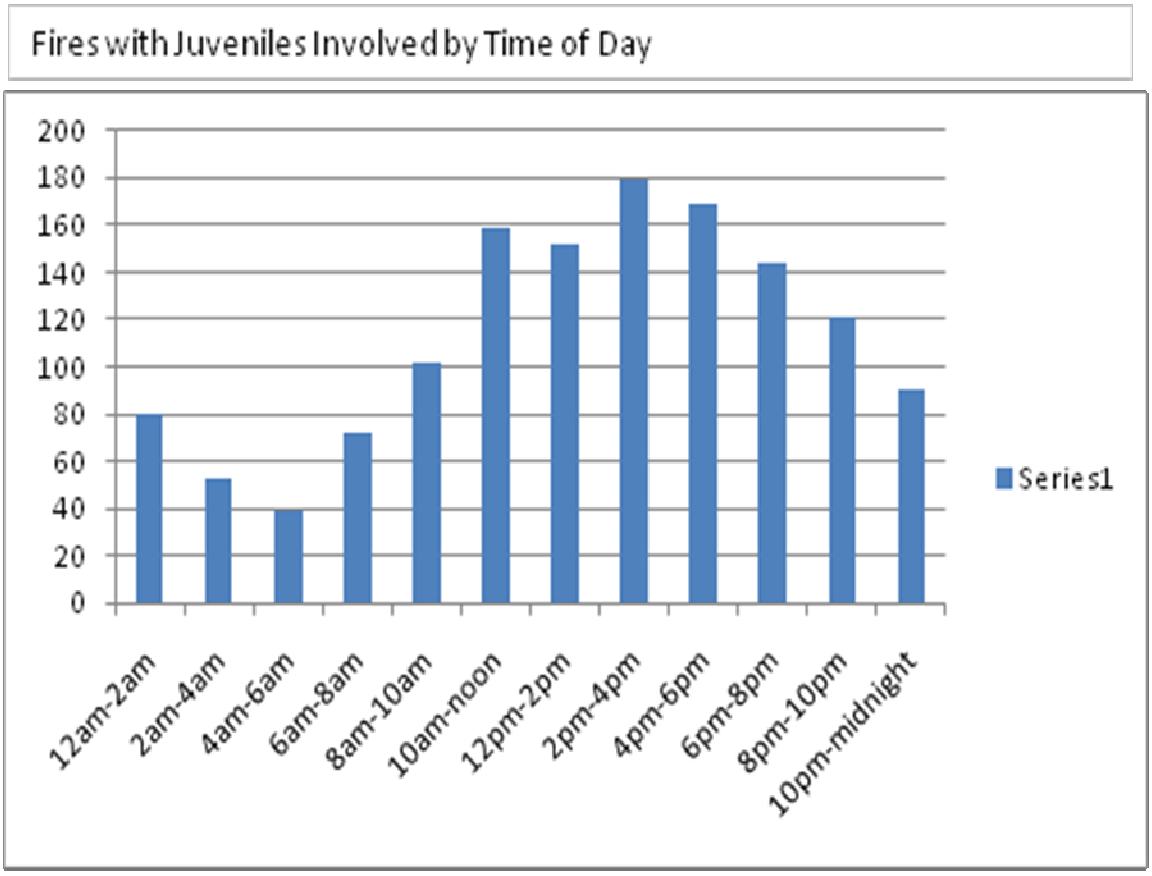
	2004	2005	2006	2007	2008	Total
Jan-Mar	34	30	34	16	6	120
Apr-Jun	50	53	54	22		179
Jul-Sep	56	46	26	20		148
Oct-Dec	40	47	19	19		125
Totals	180	176	133	77	6	572



For the time of day in which the fires with juveniles involved occurred (2004-early 2008), nearly 70% occurred after 10 a.m. and before 10 p.m. Approximately 26% occurred between 2 p.m.-6p.m.

Figure 13 – Time of Day for Maine Juvenile Fire Incidents

12am-2am	80	6%
2am-4am	53	4%
4am-6am	39	3%
6am-8am	72	5%
8am-10am	102	7%
10am-noon	159	12%
12pm-2pm	152	11%
2pm-4pm	180	13%
4pm-6pm	169	12%
6pm-8pm	144	11%
8pm-10pm	121	9%
10pm-midnight	90	7%
	1361	100%



Incident Type and Property Use

More than 45% of the fires with juveniles involved were building fires. Of all juvenile fires, 1 or 2 family dwellings and multi-family dwellings accounted for 40% of incidents (93% of the building fires). Passenger vehicles in parking areas or residential streets were the second ranked incident type at 25% of all juvenile fire incidents. For the incident and property types that occurred in less than a total of 20 incidents, please see **Attachment 6 – Incident Types and Property Use Counts for Juvenile Fire Incidents 2004-early 2008**.

Figure 14 – Maine Juvenile Fire Incident Types

Incident Type Definition	# of juv inc 04-08	% of 1364 total juv inc 04-08
building fire (excludes confined fires)	616	45.16%
passenger vehicle	355	26.03%
brush	36	2.64%
structure other than bldg	34	2.49%
cooking fire	32	2.35%
mobile prop - other	32	2.35%
mobile home/fixed res	24	1.76%
outside equipment	24	1.76%
conversion code	23	1.69%
off-road veh	22	1.61%

Figure 15 – Juvenile Fire Incident Property Types

Property Use Defined	# of Juvenile Fires 2004-early 2008	Percentage of Total Juvenile Fires
1or 2 family dwelling, fixed	449	32.99%
multi-family dwelling	125	9.16%
residential street	120	8.80%
vehicle parking area	98	7.18%
open land, grass	55	4.03%
highway	53	3.89%
street, other	32	2.35%
manufacturing processing	31	2.27%
outbuilding or shed	31	2.27%
street, commercial	21	1.54%
residential, other	18	1.32%
Blank	17	1.03%
cultivated landscapes	15	1.10%
parking garage, detached resid gar	15	1.10%
restaurant, cafeteria (carryout, d-thru)	13	0.95%
outside, special property, other	12	0.88%
vehicle storage, other	11	0.81%
car/boat sales	10	0.73%
food, bev sales (grocery)	10	0.73%
outbuilding, mailbox, telephone booth, weather shelters	10	0.73%
property use, other	10	0.73%

Since nearly half of the juvenile fire incidents were building fires, there was an attempt to determine if the owner was on-site or involved at the time of incident. Less than 300 incidents had entries for persons involved. Of these 300, the individual listed as the owner was also listed as a person involved in the incident (with at least one other person) in 100 incidents. For 83 incidents, the owner was the only person listed (was a juvenile involved and not recorded? It would certainly be rare, except perhaps in the case of vehicle fires, that a juvenile would own property.). For 30 incidents, the owner was NOT listed as a person involved in the incident (and 57 entries had no owner listed at all). There is too little data at this time to determine a correlation among ownership of property and whether owner is likely to be involved in a juvenile fire incident.

MEFIRS measures type of ownership (for the juvenile arson properties) as the following:

Figure 16 – Type of Property Ownership

Area of Origin

Area of origin is where the fire started or originated in a given incident. For the 1364 incidents, nearly half were building fires; one quarter was vehicle fires. The areas of origin varied; however, over 200 records were blank or had the entry choice "undetermined" for area of origin (number three and four ranked, respectively for area of origin). For a complete list, please see **Attachment 7 – Juvenile Fire Incident Area of Origin 2004 – early 2008**.

Figure 17 – Area of Origin

Area of Origin Definition	# of JFS inc 2004-2008	% of 1364 incidents
engine area	221	16.2%
kitchen	127	9.3%
undetermined	127	9.3%
blank (no entry)	82	6.0%
bedroom <5	59	4.3%
op, passenger area transportation equip	54	4.0%
vehicle storage	43	3.2%
vehicle, other	43	3.2%
common room	41	3.0%
outside areas, other	37	2.7%
substructure, crawl space	29	2.1%
wall surface	28	2.1%
area of origin, other	27	2.0%
storage areas, other	27	2.0%
bathroom, locker, portable toilet	24	1.8%
laundry	24	1.8%
open area	24	1.8%
cargo	23	1.7%
exterior surface	20	1.5%

Heat Source for Juvenile Fire Incidents

In the MEFIRS data of 1364 juvenile incidents, it is largely undetermined what was used to start a fire. Over one third of entries had an entry of an "undetermined" heat source, and another 5% of the records were blank (no entry). It's somewhat surprising that lighters, matches and smoking materials don't rank higher in the list. For a complete list of heat sources, please see **Attachment 8 – Heat Sources Reported Maine Juvenile Fires 2004-early 2008**.

Figure 18 – Heat Source

Heat Source Definition	# of JFS inc 04-08	% of 1364 records
undetermined	462	34%
radiated heat op equip	149	11%
heat from op equip, other	93	7%
electrical arc	74	5%
spark op equip	71	5%
hot ember, ash	67	5%
blank (no entry)	63	5%
hot smoldering, other	62	5%
heat sources, other	55	4%
heat from smoking material, open flame, other	39	3%
lighter	37	3%
cigarette	34	2%
candle	32	2%
match	24	2%
flame, torch, lantern	18	1%
undet smoking material	13	1%
incendiary device (flame thrower, torch)	11	1%
molten, hot material	10	1%
multiple heat sources, mult ignition	10	1%

Form and Type of Material First Ignited

The data for the form and type of material first ignited is similar to heat source in that over a third of the data has an "undetermined" or blank entry. The top-ranked material forms (after undetermined and blank) for items first ignited are electrical wire, structural member, cooking materials, flammable liquid from engine, multiple or other items and rubbish. The top types (after undetermined and blank) of material burned include, wood, fabric, plastic, gasoline, multiple items, paper and cooking oils, but the items are widely varied and not representative of large percentages of incidents. For the complete list, please see **Attachment 9 – Materials First Ignited n Maine Juvenile Fire Incidents 2004-early 2008**.

Figure 19 – Form Material Ignited

Form Material First Ignited	# of JFS Inc 04-08	% of 1364 incidents
undetermined	371	27%
blank (no entry)	83	6%
elec wire, cable insulation	78	6%
structural member	59	4%
cooking materials	54	4%
flammable liquid from engine	54	4%
multiple items	50	4%
other	51	4%
rubbish	49	4%
exterior sidewall	42	3%
upholstered chair, veh seats	40	3%
interior wall covering	26	2%
flamm liq/gas uncontained, accelerants	23	2%
magazine, newspaper, files	22	2%
box, waste recept	22	2%
light vegetation	22	2%

Figure 20 – Ignited Material Type Definition

Material Type Defined – First Ignited	# Juv Inc 04-08	% of total
undetermined	346	25.37%
blanks	235	17.23%
sawn wood	116	8.50%
fabric	97	7.11%
plastic	65	4.77%
gasoline	53	3.89%
multiple types of material	50	3.67%
paper	36	2.64%
cooking, transf, lubricating oil	36	2.64%
type of material first ignited (general heading)	36	2.64%
wood, paper, processed, other	33	2.42%
fiberboard	31	2.27%
cardboard	27	1.98%
flammable, comb liquid, other	25	1.83%
flammable gas, other	17	1.25%
hay, straw	17	1.25%

Detection

As stated earlier, nearly half of all the reported Maine juvenile fire incidents were building fires. In the confined fires and structure fires, how many had working smoke alarms?

In the confined fires, it is unknown (or blank entry) whether there was a detector of any kind or if it alerted anyone in nearly 70% of incidents. In just 12% of incidents, it was reported that a detector did alert someone to the fire. In 15% a detector did NOT alert someone of a fire.

In the structural fires, there is the opportunity for the collection of more data pertaining to detection. A detector was present in nearly 55% of all structure fires, operated in 28% of the incidents and actually alerted occupants who responded 21% of the time. Again, the majority of the data collected in this area has "unknown," "undetermined," or no entry recorded.

For the complete detection data, please see **Attachment 10- Detection in Confined and Structure Fires with Juveniles Involved, 2004-early 2008**.

Individual Motivations and Other Determinants of Firesetting Behavior

Since individual data in MEFIRS (profiling persons involved in juvenile fires) was largely missing from the recordset, a review of national studies was completed to provide a possible profile for firesetting behavior in Maine. More state data on individual behavior is recorded in the Maine NASFM intervention database, but this information tracks only juveniles who have been referred to screening (not necessarily as a result of an emergency response to a fire incident). The NASFM Maine data follows the brief summary of national firesetting behavior studies.

A Colorado study of juvenile firesetters found several commonalities, as potential predictors of firesetting behavior, at the individual level:

- high level of curiosity about fire,
- prior firesetting behavior,
- stayed and watched set fire,
- set fire in structure,
- poor relationships with mother and/or siblings,
- non-compliant and argumentative behavior,
- lying,
- too little or too much contact with father,
- chronic stress and/or crisis,
- diagnosed impulse control issues,
- other behavior problems in and out of school (shoplifting, violence, etc.) (Moynihan July 1998).

The Colorado study states, "In essence, the juvenile firesetter is especially curious about fire, tends to be impulsive, engages in various forms of delinquency (including firesetting), and has trouble getting along with his or her family." (Moynihan 1998, p.9)

The same study also indicated that children were more candid about their behavior patterns than their parents (Moynihan July 1998). Does this indicate parents are uncooperative with investigators (for liability or pride issues), ignorant of child's behavior or in denial?

A 2002 study in Oregon found similar patterns of individual behavior to the Colorado study, and also noted that **boys are eight times more likely than girls** to set fire [Juvenile Firesetter Intervention Program, Hot Issues, Summer 2003, Oregon Office of State Fire Marshall]. The Oregon study of juvenile fire setters found that the highest level of incidents occurred with children between **the ages of eight and fourteen**. There was no correlation among family structure and incidence of fire, but there were **issues with family relationships**.

In a focus group of nearly 50 parents/guardians at an youth firesetter intervention program, 71% surveyed responded their child had firesetting history, 78% fought with siblings, 56% argued with parents, 87% witnessed parents arguing, 40% had special education needs, 60% had experienced trauma, 50% had been bullied, 67% was in or had been in counseling and 8% had shown cruelty to animals. (Oregon Office of State Fire Marshall 2003)

In a British study, Damian Smith found that in a number of juvenile fire incidents, children "knowingly and intentionally" set fire. He states, "Whilst yesterday's child was taught to fear fire and was instructed in its proper use, the child of today will view the fire engine and its siren as something exciting - perhaps even heroic and glamorous. Many will have little, if any, comprehension of the potential damage created by fires or the impact upon those who will suffer as a consequence of that event." [Smith 2001 p.3]

Smith quotes another study done by Kenneth R Fineman, Associate Clinical Professor of Medical Psychology (1984) that "distinguishes between the normal child who sets fire out of 'curiosity' and the pathological 'firesetter.' It was the former group comprising 60% of the juveniles who set fires that could be effectively educated at the firehouse level by non-mental health practitioners. Fineman recognises that even the pathological juvenile firesetters may benefit from some educational intervention immediately after a fire episode, however this child: 'is in need of a professional mental health evaluation'." (Smith 2001)

The Juvenile Justice Bulletin (OJJDP, May 2005) presented a juvenile firesetting research overview that also summarized typologies based on co-occurring behaviors in firesetters: **aggression, antisocial behavior, delinquency and substance abuse**. According to several studies, the factors of **age, gender, marital status of parent or guardian, fire history and smoking** are all correlated to firesetting behavior. This review separates psychological typologies into four subtypes of firesetter:

- curious (fascination),
- pathological (dysfunction),
- expressive (communicating for help) and
- delinquent (antisocial or destructive revenge).

The final report for NASFM's Juvenile Firesetter Intervention Research Project found that firesetting behavior was as an interaction between: 1) dynamic historical factors that predispose the firesetter toward a variety of maladaptive and antisocial acts; 2) historical environmental factors that have taught and reinforced firesetting as acceptable; and 3) immediate environmental contingencies that encourage the firesetting behavior. (NASFM 2001 p.9)

The NASFM final report also documented the following household or family factors that correlated with firesetting behaviors (NASFM 2001 p.11):

Poor supervision and a lax child-care environment;
Inappropriate exposure to fire at an early age;
Parental uninvolvement (often including abuse and neglect);
Involvement in a dysfunctional family.

For the children involved in "fireplay," where age, no comprehension of danger and curiosity are the primary motivators, household concern and awareness play a major role in determining risk. The Fireproof Children Company (www.fireproofchildren.com), an educational resource, states that many of the homes where juvenile fires occurred (from fireplay) had no explicit rules against fireplay. Ignition sources were readily accessible even in homes of children at young ages (preschool and younger who have no cause/effect cognition).

Maine NASFM Firesetter Intervention Project Data

Maine's NASFM (or the Juvenile Firesetter Intervention Project) data, although a smaller number set than that of juvenile incidents, is helpful in providing more details about individual's firesetting behavior and characteristics where the incident data is currently lacking specific details. There is no easy way to track whether these individuals have also been involved in reported fire incidents since the two systems are not currently linked (and in most cases, a referral was not made from a fire incident), individual names have been removed and report summaries of NASFM only provide total counts over time, not information specific to an incident identification, if one even existed.

Approximately 220 children have been screened for fireplay or firesetting behaviors through the NASFM project in Maine from 2004 to early 2008. Of these, nearly 80% fall between the ages of 8 and 15 years of age; 95% are male. In Maine, 98.6% of the children served speak English, although fractions of percent speak Russian, Spanish and French. A little over half have demonstrated previous fireplay behavior, and nearly 90% report having started a fire.

About one third of these children are not yet involved with social service agencies, but 18% are in the juvenile justice system, 25% served by mental health programs and 20% involved in social services.

The predominant place of firesetting behavior incident (with or without an emergent response) was inside a single-family home (20%), followed by home yard (17%), park/field/vacant lot (15%) and multi-family home (14.5%). Places designated as "other" (varied from friend's home to church or woods) accounted for nearly 21% of all locations, and vehicle only 1.8%.

In half of these cases, the child acted alone; in a quarter or more of the events, two or more children were involved. The cause of ignition in a little more than half these cases was intentional (54%). This is much higher than the MEFIRS data showing 12% of incidents were "intentional." However, the MEFIRS data could be misrepresentative due to the number of records marked "under investigation," "undetermined," or simply left blank.

Lighters and matches account for the top two-ranked heat sources (over 90% of events). This is different than the MEFIRS incident data, but perhaps the two would compare more closely if heat source was accurately identified (other than "undetermined") more often. In 62% of the NASFM reported events, the ignition/heat source was accessed or obtained from the child's own home. The items first ignited by children exhibiting firesetting behavior are paper and

grass/leaves (both total nearly 60% of events). This is also different than the MEFIRS incident data, but again could resemble more closely if data was available and more specific.

In half of the NASFM reports, a parent or caregiver was on site at the time of the firesetting behavior or event. More than one third of the time, the juvenile had no supervision. In less than 7% of the cases, a sitter or other person (usually a parent's friend or extended relative) was on site.

The Maine NASFM intervention project summary of reports found no fatalities and only 20 injuries as a result of reported events. In over 93% of the cases, there were no injuries. However in 7% of the cases, people were displaced from residence, places of business, assembly or school.

The dollar loss, according to Maine NASFM reports, was under $100,00 in 82% of the cases, but had one case over $1million dollars in damage, two under $500,000 damage and one over $100,000 (less than $500k) damage.

The disposition of these juveniles ranges from referral to a youth firesetting intervention program/education (61%), referral to legal authority (29%), other (8%: includes counseling and/or other mental health services), or nothing (1%). More than 38% of the juveniles are referred as a result of a fire report, 28% because of parental concern, 19.5% due to law enforcement, 5% from mental health, 4% from school and 3.6% from others, which includes court or other screened juvenile firesetters.

Recommendations

As documented, Maine does have an issue with juvenile firesetting in terms of numbers of incidents, casualties and dollar loss. Even at 1364 fire incidents with juveniles, more than $28,600,528 in total loss, 7 civilian deaths, 48 civilian injuries and 18 fire service injuries the problem is not small, but there is evidence the "real " numbers may be under-reported.

Individuals in the state have noted the issue and have been working on potential solutions for nearly three decades. It's been over a decade since a task force was assigned to discuss and push forward ideas for potential resolutions or treatment. During this grant period, there have been great strides toward developing and strengthening county collaboratives of interagency representation to work with juvenile firesetting issues. During the summer of 2008, the task force was recognized by Maine's governor. The initiative was signed into an executive order that sets specific guidelines for future progress (See **Attachment 11 – Juvenile Fire Safety Executive Order**).

There is still much work to be done. As noted in this report, the mandate for reporting fire incidents was enacted in 2007. Many departments do make use of the Maine Fire Incident Reporting System, but improvement is needed. There is great variance in how the reports are documented (which fields are filled out, and the choices selected). More accurate data would allow the state and county collaboratives to better grasp the extent of the issue, and to note patterns in the behavior or circumstance of Maine juveniles involved in fireplay or firesetting. This information would lead to a more efficient deployment of available state and county resources so local fire departments need not shoulder the burden of managing this issue alone.

The state has taken measures to make sure local departments have access to the MEFIRS data entry system (with mini grants for infrastructure, computer equipment), but some departments may not have accessed support or may be using freeware that impedes the data entry process. A few departments have access to vendor software that allows timelier input and upload of information. The state may investigate this potential for other communities.

Equally important to financial support, or perhaps more critical, is the necessary educational support for the use of the software. Given the amount of blank or undetermined entries, it is not clear that local departments understand the options presented, nor how this information could be used.

It would be helpful, in terms of measuring success, if there were a way to easily connect the data from the NASFM intervention project to the Maine incident data. There may be opportunity for tracking whether served individuals ceased fireplay or firesetting behavior.

While there is little doubt that the local departments are not adequately responding to juvenile fire incidents, there is some question regarding the juvenile's accountability or treatment. Is there any uniformity among local communities as to the disposition of these juveniles? How are they are treated within the juvenile justice system (for reprimand or restitution)? How often are the juveniles referred onto psychological examination and treatment? How many of them become better educated on the consequence of their actions? What is expected or the parents or guardians (and how can their denial or fear be overcome so treatment is rendered and successful)? How can the state ensure that these individuals and their families attend education or treatment services? Are schools working with fire departments? Are fire departments in communication with mental health care services?

Since there is some evidence that juvenile involvement with fire falls into two categories: fireplay (curiosity) and firesetting (malign, expression or intent), the treatments or solutions need to take these specific motivations into account when targeting the audience. Awareness campaigns, in the form of both fire prevention and safety, may be especially useful for parents and young children (preschool age). Currently, there is little uniformity among local fire departments for community outreach, although many Maine departments visit schoolchildren during Fire Prevention Week each October. There is currently no documentation of where in Maine this occurs, or of exactly what's included in outreach effort. From anecdotal input of firefighters on the task force, most of this effort, in communities where an outreach program exists, focuses on detectors, keeping children away from fire and fire-causing, dangerous items or appliances and development of fire escape plans. These education efforts are offered to preschools and young elementary students.

There may be several "missed opportunities" within this limited outreach effort. First, and probably most important, little is done to "reach" the parents – although handouts may be sent home reviewing topics of discussion and asking if the home has operating detectors and a fire escape plan.

Maine parents should be made aware that:

- a juvenile fire problem exists in Maine (sampling data),
- over half of all arson arrests involved juveniles,
- children age 1-5 (especially ages 1-3) are most vulnerable in terms of fire fatalities,
- fires and burns are one of the leading causes of accidental injury among children 14,
- fires set by children are more likely than any other household disaster to result in death (NASFM, 2001,)
- children may not cognitively be able to perceive the amount of danger fire presents (www.usa.safekids.org).

It is striking that research states most parents do not have explicit household rules about fireplay, and that hazardous materials are almost always readily accessible.

The second "missed opportunity," is that current educational efforts focus heavily on safety, but not prevention. There may need to be more study of curriculum to address this need. If children better understand the consequence and danger, it may lead to changes in behavior – less curiosity, more caution.

The third area for improvement of educational effort is with targeted age group. The predominant age group most at risk for involvement in fire, nationally and in Maine, is 8-14. There are currently no known statewide efforts specific to re-educating this group, who certainly have had exposure to information, but may be desensitized by media or a sense of "adolescent immortality." Other statewide public information campaigns have employed teen peer testimonials (e.g. driving under the influence of alcohol), which could be useful in reaching this group. Such effort could include: video imagery of destruction caused by fire, imagery of burn victims and testimonials detailing the reality of rehabilitation, and testimonials from reformed Maine teenagers who've paid restitution of some sort or have completed fire education. This would be most effective when paired with other health and personal safety curriculum.

Maine should continue to broaden its efforts in developing interagency involvement with this issue and its treatment. It is not a problem that can be solved by one discipline alone. It's important that parents, local fire departments, educators, juvenile justice or law enforcement and health providers understand and respect the issue, and that they be willing to communicate data and work together to find solutions. Education on the issue must be made available to these groups, and "ego," "turf," and "confidentiality" issues set aside in order to achieve real progress.

Works Cited

American Community Service 2006 Subject Definitions. www.census.gov/acs/www/Downloads/2006/usedata/Subject_Definitions.pdf.

Federal Emergency Management Agency. *Socioeconomic Factors and the Influence of Fire.* National Fire Data Center, United States Fire Administration, June 1997.

Gunther, Paul. "Fire Cause Patterns for Different Socioeconomic Neighborhoods in Toledo, OH." *Fire Journal* 75 (May 1981).

Jennings, Charles R. "Urban Residential Fires: An Empirical Analysis of Building Stock and Socioeconomic Characteristics for Memphis, TN." *Unpublished doctoral dissertation.* 1996.

Maine State Fire Marshall's Office. *Juvenile Firesetter Intervention Data.* format, NASFM. Augusta, Maine, 2004-2008.

Maine State Fire Marshall's Office. *Maine Fire Incident Reporting System.* Edited by NFIRS. Augusta, Maine, 2004-2008.

Maine State Fire Marshall's Office. *State of Maine Juvenile Fire Safety & Intervention Protocol.* Augusta: Maine Department of Public Safety, 2008.

Moynihan, Michael H., and Elise Flesher. "Colorado Juvenile Firesetter Research and Development of Child and Family Risk Surveys." University of Colorado, Boulder, July 1998.

Munson, Michael J. and Wallace E. Oates. "Community Characteristics and the Incidence of Fire: An Empirical Analysis." Edited by Chester Rapkin. *Social and Economic Consequence of Residential Fires* (D.C. Heath and Co.), 1983.

National Association of State Fire Marshalls (NASFM). "Final Report: Juvenile Firesetter Intervention Project." March 2001.

National Fire Incident Reporting System (NFIRS), U.S. Fire Administration, Federal Emergency Management Association, Department of Homeland Security. *NFIRS Summary Output Report Tools.*

National Fire Protection Association. "Fire and Life Safety Symposium." *reprinted in "Socioeconomic Factors and the Incidence of Fire".* Federal Emergency Management Agency, July, 1996.

Office of Juvenile Justice and Delinquency Programs (OJJDP). "Juvenile Firesetting: A Research Overview." *OJJDP Juvenile Justice Bulletin* (U.S. Department of Justice), May 2005.

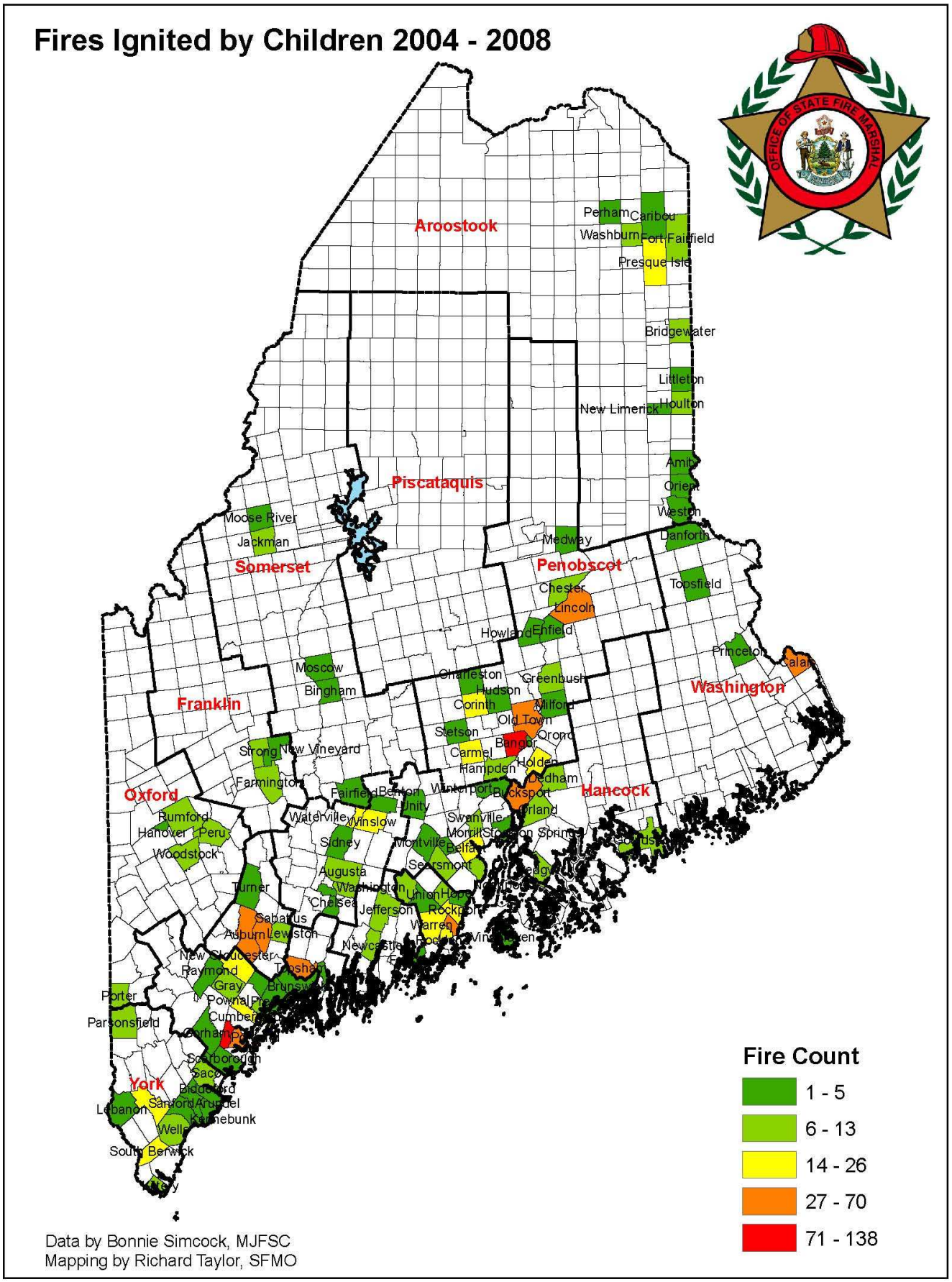
Oregon Office of State Fire Marshall. "Juvenile Firesetter Intervention Program." *Hot Issues [Hot Topics]*, Summer 2003.

Schaenman, Philip, John R. Hall, Jr., Alfred H. Schainblatt, Joseph A. Swartz, and Michael J. Karter. "Procedures for Improving Measurement of Local Fire Protection." Boston: National Fire Protection Association, 1977.

Smith, Damian. *Juvenile Firesetting -- An Appropriate Response.* Buckinghamshire, UK: Buckinghamshire Fire & Rescue, 2001.

The Fireproof Children Company. www.fireproofchildren.com.

Attachment 1- Map of Maine Fires Ignited by Children 2004-2008



Attachment 2 –Reported Maine Fire Incidents with Juveniles Involved Sorted by Town

(Largest Number of Incidents to Smallest Number Reported)

Town	Zip	FDID	County	2004	2005	2006	2007	2008	TOTAL 2004-early 2008	Percentage of Total JFS Inc
Bangor	04401	J0030	Penobscot	41	41	34	22		**138**	10%
Westbrook	04092	C0260	Cumberland	19	16	29	25	11	**100**	7%
Lewiston	04240	A0160	Androscoggin	15	17	21	17		**70**	5%
Auburn	04210	A0010	Androscoggin		32	20	5		**57**	4%
Rockland	04841	G0210	Knox	23	19	12			**54**	4%
Old Town	04468	J0180	Penobscot	16	5	19			**40**	3%
Orono	04473	J3820	Penobscot	1	11	11	12		**35**	3%
Portland	04102	C0190	Cumberland	9	9	8	8		**34**	2%
Calais	04619	P0090	Washington	6	6	9	12		**33**	2%
Topsham	04086	L4740	Sagadahoc	7	7	6	12		**32**	2%
Bucksport	04416	E1570	Hancock		12	17			**29**	2%
Lincoln	04457	J3070	Penobscot	6	12	1	9		**28**	2%
Sanford	04073	R4290	York	3	9	7	4	3	**26**	2%
New Gloucester	04260	C3590	Cumberland		9	5	7	3	**24**	2%
Presque Isle	04769	B4100	Aroostook	15	3	5			**23**	2%
South Berwick	03098	R4470	York	6	5	6	5	1	**23**	2%
Warren	04864	G4960	Knox	7	6	7	2		**22**	2%
Rockport	04856	G4200	Knox	4	5	5	6		**20**	1%
Belfast	04915	N0050	Waldo	9	10				**19**	1%
Corinth	04427	J1910	Penobscot	3	6	9			**18**	1%
Cumberland	04021	C1970	Cumberland	10	7				**17**	1%
Thomaston	04861	G4710	Knox	7	7	3			**17**	1%
Waterville	04901	F0250	Kennebec	5	3	2	7		**17**	1%
Carmel	04419	J1760	Penobscot		4	3	7	2	**16**	1%
Winslow	04901	F5210	Kennebec	9	6				**15**	1%
Chelsea	04330	F1780	Kennebec	2	3		9		**14**	1%
Holden	04429	J2750	Penobscot	6	2	6			**14**	1%
Washington	04574	G4980	Knox		4	5	4		**13**	1%
Greenbush	04418	J2540	Penobscot		6	3	3		**12**	1%
Hampden	04444	J2660	Penobscot				9	3	**12**	1%
Parsonsfield	04047	R5200	York	4	8				**12**	1%
Sabattus	04280	A5020	Androscoggin	6		6			**12**	1%
Peru	04290	I3990	Oxford	4	7				**11**	1%
Wells	04090	R5050	York	1	1	4	4	1	**11**	1%

Fort Fairfield	04742	B2360	Aroostook			10			**10**	1%
Newcastle	04553	H3570	Lincoln	5	4	1			**10**	1%
Orland	04472	E3800	Hancock	2	3	5			**10**	1%
Sedgwick	04676	E4360	Hancock	4	1	3	2		**10**	1%
Farmington	04938	D2340	Franklin		5	3	1		**9**	1%
Saco	04072	R0230	York	4	3	2			**9**	1%
Yarmouth	04096	C5300	Cumberland	7	1	1			**9**	1%
Gouldsboro	04607	E2510	Hancock	1	5	2			**8**	1%
Jackman	04945	M6250	Somerset	3	4	1			**8**	1%
Northport	04849	N3730	Waldo	3	4	1			**8**	1%
Augusta	04330	F0020	Kennebec	3	1	3			**7**	1%
Bridgewater	04735	B1460	Aroostook	3	4				**7**	1%
Dedham	04429	E2050	Hancock	2	4	1			**7**	1%
Houlton	04730	B2780	Aroostook	7					**7**	1%
Kittery	03904	R2950	York	3	4				**7**	1%
Porter	04068	R5200	York	5	2				**7**	1%
Searsmont	04973	N4320	Waldo	7					**7**	1%
Swanville	04915	N0050	Waldo	2	5				**7**	1%
Chester	04457	J3070	Penobscot	3	2	1			**6**	0%
Gray	04039	C2530	Cumberland	5		1			**6**	0%
Hope	04847	G2770	Knox	1	3	2			**6**	0%
Jefferson	04348	H2870	Lincoln	2	4				**6**	0%
Rumford	04276	I4240	Oxford	6					**6**	0%
Strong	04983	D4620	Franklin	1		2	3		**6**	0%
Washburn	04786	B4970	Aroostook	4	2				**6**	0%
Woodstock	04219	I5270	Oxford	3	3				**6**	0%
Charleston	04422	J1760	Penobscot		5				**5**	0%
Medway	04460	J3370	Penobscot		5				**5**	0%
Morrill	04952	N3510	Waldo	2	1	1	1		**5**	0%
Scarborough	04074	C4310	Cumberland			4	1		**5**	0%
Springvale	04083	R4290	York	2	1	1	1		**5**	0%
Union	04862	G4800	Knox	5					**5**	0%
Veazie	04401	J4860	Penobscot	2	1		2		**5**	0%
Benton	04901	M2310	Somerset	1	1	1	1		**4**	0%
Biddeford	04005	R0060	York			4			**4**	0%
Fairfield	04937	M2310, F0250	Somerset	2			2		**4**	0%
Milford	04461	J3420	Penobscot	4					**4**	0%
Orient	04471	P2010	Washington		1	3			**4**	0%
Stetson	04488	J4550	Penobscot		1	3			**4**	0%
Unity	04988	N4810	Waldo		3	1			**4**	0%
Bingham	04920	M1340	Somerset	3					**3**	0%

Camden	04843	G1630	Knox			2	1		**3**	0%
East Waterboro	04030	R4990	York				3		**3**	0%
Gorham	04038	C0260	Cumberland		2		1		**3**	0%
Hudson	04449	J2800	Penobscot	3					**3**	0%
North Waterboro	04061	R4990	York				3		**3**	0%
Topsfield	04490	P4912	Washington	1		2			**3**	0%
Vinalhaven	04863	G4890	Knox	1	2				**3**	0%
Winterport	04496	N5230	Waldo	3					**3**	0%
Arundel	04046	R3270	York	1		1			**2**	0%
Birch Harbor	04613	E2510	Hancock	2					**2**	0%
Brunswick	04011	C1550	Cumberland	1			1		**2**	0%
Caribou	04736	B1670	Aroostook	2					**2**	0%
Farmingdale	04344	F2330	Kennebec	2					**2**	0%
Friendship	04547	G2440	Knox	2					**2**	0%
Kennebunk	04043	R2910	York			1	1		**2**	0%
Long Pond	04945	M6250	Somerset	1		1			**2**	0%
Moose River	04945	M6250	Somerset			2			**2**	0%
Moscow	04920	M1340	Somerset	1	1				**2**	0%
New Vineyard	04956	D3660	Franklin	2					**2**	0%
Prospect Harbor	04669	E2510	Hancock		2				**2**	0%
Raymond	04071	C4150	Cumberland			1	1		**2**	0%
Turner	04282	A4790	Androscoggin			1	1		**2**	0%
Amity	04730	B2780	Aroostook	1					**1**	0%
Bath	04530	L0040	Sagadahoc			1			**1**	0%
Cary	04730	B2780	Aroostook	1					**1**	0%
Chebeague Island	04017	C1970	Cumberland		1				**1**	0%
Codyville	04490	P4912	Washington		1				**1**	0%
Concord	04920	M1340	Somerset		1				**1**	0%
Corea	04624	E2510	Hancock		1				**1**	0%
Danforth	04424	P2010	Washington		1				**1**	0%
Enfield	04493	J3070	Penobscot	1					**1**	0%
Freeport	04032	C2420	Cumberland		1				**1**	0%
Gardiner	04345	F2330	Kennebec	1					**1**	0%
Greenfield	04423	J3420	Penobscot	1					**1**	0%
Grindstone	04460	J3370	Penobscot		1				**1**	0%
Hanover	04237	I4240	Oxford	1					**1**	0%
Howland	04448	J2790	Penobscot		1				**1**	0%
Kennebunkport	04046	R2920	York			1			**1**	0%
Kittery Point	03905	R2950	York		1				**1**	0%

Lebanon	04027	R2990	York				1		**1**	0%
Littleton	04730	B3120	Aroostook	1					**1**	0%
Mayfield	04920	M1340	Somerset		1				**1**	0%
Montville	04941	N4320	Waldo	1					**1**	0%
New Limerick	04730	B2780	Aroostook	1					**1**	0%
Northeast Harbor	04662	E3530	Hancock				1		**1**	0%
Pejepscot Village	04086	L4740	Sagadahoc	1					**1**	0%
Perham	04786	B4970	Aroostook		1				**1**	0%
Pownal	04069	C3590	Cumberland					1	**1**	0%
Princeton	04668	P4110	Washington			1			**1**	0%
Sidney	04330	F0250	Kennebec				1		**1**	0%
Stockton Springs	04981	N4580	Waldo			1			**1**	0%
T16R4	04783	B1670	Aroostook	1					**1**	0%
TWP32	04461	J3420	Penobscot	1					**1**	0%
West Gouldsboro	04607	E2510	Hancock	1					**1**	0%
Weston	04424	P2010	Washington	1					**1**	0%

Attachment 3 – Socioeconomic Decennial Census Data **Maine Towns Reporting 20 or more Juvenile Fire Incidents 04- 08**

Town/City	# Rep Juv Inc	# Inc $ Loss	% Inc $ data	Value Property	Value Other	Loss Property	Loss Other		Total Value	Cty	Total Pop City	Pop 18+>	Popn <18	% Pop Under 18	caucas.	% of pop cauc	ave family size	owner occ hous units	% of total owner occ	renter occ housunits	% of total renter occ	single fam own occ home	% of total owner occ that are single family***	median value homes	hs grad +	hs grad % of pop	bach +	bach % of pop	% Speak other lang (not Eng)	in labor force	in labor force %	median household income	median family income	fams below pov level	% fam below pov level	ind below pov level	% ind below pov
Bangor	138	44	32%	$ 6,799,500	$ 2,651,945	$ 5,831,350	$ 2,617,945	$ 8,449,295	$ 9,451,445	Penob	31473	24784	6689	21.3%	29888	95.0%	2.81	6508	47.5%	7205	52.5%	4795	73.7%	$ 87,300	18130	87.0%	5533	26.5%	5.4%	16526	64.2%	$ 29,740	$ 42,047	868	11.9%	4950	16.6%
Westbrook	100	51	51%	$ 18,089,867	$ 4,794,550	$ 1,818,475	$ 1,028,900	$ 2,847,375	$ 22,884,417	Cumb	16142	12358	3784	23.4%	15608	96.7%	2.9	4113	59.9%	2750	40.1%	3119	75.8%	$ 111,000	9717	87.1%	2066	18.5%	5.8%	8585	67.3%	$ 37,873	$ 47,120	289	6.7%	1329	8.3%
Lewiston	70	30	43%	$ 2,080,560	$ 292,300	$ 1,697,310	$ 415,075	$ 2,112,385	$ 2,372,860	Andro	35690	28297	7393	20.7%	34172	95.7%	2.81	7215	47.2%	8075	52.8%	5314	73.7%	$ 87,200	17203	72.3%	2997	12.6%	28.2%	17790	61.1%	$ 29,191	$ 40,061	872	10.0%	5159	15.5%
Auburn	57	31	54%	$ 12,763,900	$ 1,243,700	$ 696,600	$ 258,500	$ 955,100	$ 14,007,600	Andro	23203	17818	5385	23.2%	22517	97.0%	2.88	5587	57.2%	4177	42.8%	4305	77.1%	$ 86,700	12937	81.2%	3009	18.9%	12.4%	12208	65.9%	$ 44,012	$ 44,012	536	9.0%	2688	12.0%
Rockland	54	9	17%	$ 3,940,200	$ 40,000	$ 391,000	$ 10,000	$ 401,000	$ 3,980,200	Knox	7609	6001	1608	21.1%	7449	97.9%	2.78	1861	54.2%	1573	45.8%	1432	76.9%	$ 82,400	4465	83.3%	1094	20.4%	3.7%	3876	63.0%	$ 30,209	$ 37,083	205	10.4%	1085	14.7%
Old Town	40	16	40%	$ 2,425,510	$ 416,750	$ 864,779	$ 61,750	$ 926,529	$ 2,842,260	Penob	8130	6503	1627	20.0%	7693	94.6%	2.83	2053	59.9%	1373	40.1%	1522	74.1%	$ 77,100	4365	87.2%	1164	23.2%	5.5%	4229	63.1%	$ 29,886	$ 40,589	238	11.8%	1562	18.6%
Orono	35	27	77%	$ 990,600	$ 362,830	$ 219,901	$ 178,231	$ 398,132	$ 1,353,430	Penob	9112	8028	1084	11.9%	8523	93.5%	2.81	1285	47.8%	1406	52.2%	1020	79.4%	$ 108,300	3396	91.4%	1798	48.4%	9.0%	5095	62.2%	$ 30,619	$ 52,714	136	10.3%	1511	25.0%
Portland	34	14	41%	$ 1,804,525	$ 200,100	$ 32,275	$ 2,700	$ 34,975	$ 2,004,625	Cumb	64249	52177	12072	18.8%	58638	91.3%	2.89	12617	42.5%	17097	57.5%	9579	75.9%	$ 121,200	39976	88.3%	16491	36.4%	9.9%	37003	69.1%	$ 35,650	$ 48,763	1331	9.7%	8844	14.1%
Calais	33	1	3%	$ 200	$ -	$ 200	$ -	$ 200	$ 200	Wash	3447	2691	756	21.9%	3337	96.8%	2.88	938	63.1%	548	36.9%	694	74.0%	$ 70,700	2031	84.6%	276	11.5%	5.8%	1578	56.5%	$ 24,623	$ 39,118	100	11.1%	559	16.8%
Topsham	32	9	28%	$ 1,389,500	$ 440,700	$ 967,000	$ 416,500	$ 1,383,500	$ 1,830,200	Sag	9100	6574	2526	27.8%	8662	95.2%	3.08	2430	71.0%	994	29.0%	1875	77.2%	$ 118,700	5402	90.0%	1770	29.5%	6.1%	4797	70.0%	$ 47,682	$ 52,134	76	0.3%	371	4.1%
Bucksport	29	8	28%	$ 1,076,500	$ 86,700	$ 169,400	$ 28,700	$ 198,100	$ 1,163,200	Han	4908	3679	1229	25.0%	4813	98.1%	2.87	1515	73.9%	534	26.1%	1014	66.9%	$ 86,500	2814	84.9%	538	16.2%	3.3%	2505	65.2%	$ 34,812	$ 41,818	129	9.4%	526	10.8%
Lincoln	28	2	7%	$ 134,999	$ 60,150	$ 35,000	$ 5,000	$ 40,000	$ 195,149	Penob	5221	3953	1268	24.3%	5135	98.4%	2.87	1656	78.6%	452	21.4%	1262	76.2%	$ 67,100	2883	80.4%	541	15.1%	3.2%	2168	53.1%	$ 30,823	$ 35,295	203	13.6%	873	12.4%
Sanford	26	16	62%	$ 1,383,565	$ 352,750	$ 388,765	$ 106,750	$ 495,515	$ 1,736,315	York	20806	15258	5548	26.7%	19907	95.7%	3.01	5253	63.5%	3017	36.5%	4062	77.3%	$ 91,600	10523	77.7%	1579	11.7%	12.7%	10129	63.4%	$ 34,668	$ 43,021	601	11.1%	2628	12.8%
New Gloucester	24	7	29%	$ 327,000	$ 68,200	$ 220,000	$ 64,200	$ 284,200	$ 395,200	Cumb	4803	3420	1383	28.8%	4715	98.2%	3.08	1514	86.0%	247	14.0%	984	65.0%	$ 124,000	2814	89.5%	688	21.9%	3.1%	2813	79.1%	$ 49,599	$ 57,727	54	4.0%	254	5.4%
Presque Isle	23	8	35%	$ 706,000	$ 30,000	$ 270,400	$ 7,000	$ 277,400	$ 736,000	Aroos	9511	7453	2058	21.6%	9048	95.1%	2.82	2406	60.7%	1557	39.3%	1789	74.4%	$ 67,100	5122	81.4%	1321	21.0%	10.1%	4958	64.3%	$ 29,325	$ 37,090	226	9.2%	1295	14.5%
South Berwick	23	9	39%	$ 4,168,075	$ 322,200	$ 480,500	$ 222,500	$ 703,000	$ 4,490,275	York	6671	4643	2028	30.4%	6513	97.6%	3.17	1883	78.4%	520	21.6%	1558	82.7%	$ 131,700	3927	91.4%	1086	25.3%	2.7%	3610	74.3%	$ 53,201	$ 59,330	51	2.8%	194	2.9%
Warren	22	4	18%	$ 225,000	$ 50,000	$ 225,000	$ 50,000	$ 275,000	$ 275,000	Knox	3794	2829	965	25.4%	3701	97.5%	2.98	1148	85.3%	198	14.7%	613	53.4%	$ 88,700	2144	83.6%	373	14.5%	5.2%	2066	69.4%	$ 35,662	$ 41,086	32	3.3%	233	6.7%
Rockport	20	15	75%	$ 4,250,400	$ 2,081,100	$ 791,500	$ 281,600	$ 1,073,100	$ 6,331,500	Knox	3209	2455	754	23.5%	3167	98.7%	2.83	1093	79.6%	280	20.4%	853	78.0%	$ 171,900	2243	95.4%	998	42.5%	2.9%	1725	68.3%	$ 47,155	$ 56,068	50	5.4%	228	7.1%
US														25.7%		75.1%	3.14		66.2%		33.8%			$119,600.00		80.4%		24.4%	17.9%		63.9%	$ 41,994	$ 50,046		9.2%		12.4%
MAINE														23.6%		96.9%	2.9		71.6%		28.4%	254866	68.7%	$ 98,700.00		85.4%		22.9%	7.8%		65.3%	$ 37,240	$ 45,179	2661		135	10.2%

Attachment 3 continued – Socioeconomic Decennial Census Data **Maine Counties Raw Data**

County Loss Total	County Total Value	loss /value = %loss	% saved of reported figures	County	# of Juv Inc Reported	# of Inc with $ Loss Total	% of Inc with $ loss total data	Total Population	Population 18&+	Population <18	Total Population Rank	Under 18 Population Rank	caucasian	% of pop cauc	ave family size	owner occ housing units	% of total owner occ	renter occ housing units	% of total renter occ	single fam own occ homes	% of total owner occ that are single family***	median value homes	hs grad +	hs grad % of pop	bach +	bach % of pop	% Speak other language (not Eng)	in labor force	in labor force %	median household income	median family income	families below pov level	% fam below pov level	ind below pov level	% ind below pov
$ 11,157,816	$ 17,803,144	63%	37%	Penobscot	350	119	34%	144919	111819	33100	3	3	139989	96.6%	2.88	40554	69.8%	17542	30.2%	26939	66.4%	$ 82,400	81845	85.7%	19406	20.3%	4.6%	74297	64.0%	$ 34,274	$ 42,206	3712	9.7%	18956	12.4%
$ 4,906,662	$ 34,077,642	14%	86%	Cumberland	205	92	45%	265612	203650	61962	1	1	254291	95.7%	2.95	72093	66.8%	35896	33.2%	56403	78.2%	$ 131,200	163376	90.1%	62068	34.2%	5.9%	145269	69.0%	$ 44,048	$ 54,485	3527	5.2%	20352	7.9%
$ 2,145,600	$ 11,772,200	18%	82%	Knox	145	39	27%	39618	30759	8859	10	11	38935	98.3%	2.83	12287	74.0%	4321	26.0%	8685	70.7%	$ 112,200	24758	87.5%	7423	26.2%	3.4%	20024	63.0%	$ 36,774	$ 43,819	695	6.4%	3865	10.1%
$ 3,067,485	$ 16,380,460	19%	81%	Androscoggin	141	61	43%	103793	78957	24836	5	5	100658	97.0%	2.91	26631	63.4%	15397	36.6%	17914	67.3%	$ 89,900	55537	79.8%	9993	14.4%	16.4%	54529	66.5%	$ 35,793	$ 44,082	2067	7.5%	11115	11.1%
$ 2,573,665	$ 8,571,555	30%	70%	York	117	43	37%	186742	140469	46273	2	2	182177	97.6%	2.96	54157	72.6%	20406	27.4%	40642	75.0%	$ 122,600	110414	86.5%	29189	22.9%	9.4%	99034	68.1%	$ 43,630	$ 51,419	2999	5.9%	15003	8.2%
$ 227,100	$ 1,192,200	19%	81%	Hancock	71	10	14%	51791	40248	11543	8	9	50554	97.6%	2.81	16550	75.7%	5314	24.3%	10779	65.1%	$ 108,600	31960	87.8%	9878	27.1%	3.6%	26826	64.3%	$ 35,811	$ 43,216	997	7.0%	5159	10.2%
$ 688,400	$ 1,214,800	57%	43%	Aroostook	61	13	21%	73938	57218	16720	6	6	71572	96.8%	2.86	22152	73.0%	8204	27.0%	15053	68.0%	$ 60,200	39751	76.9%	7534	14.6%	24.1%	34867	58.6%	$ 28,837	$ 36,044	2015	9.8%	10313	14.3%
$ 303,500	$ 791,225	38%	62%	Kennebec	57	21	37%	117114	89187	27927	4	4	114129	97.5%	2.89	33933	71.2%	13750	28.8%	22365	65.9%	$ 87,200	67651	85.2%	16402	20.7%	7.8%	60015	64.8%	$ 36,498	$ 43,814	2655	8.5%	12637	11.1%
$ 87,600	$ 310,600	28%	72%	Waldo	55	5	9%	36280	27504	8776	11	12	35513	97.9%	2.88	11756	79.8%	2970	20.2%	6185	52.6%	$ 90,100	20994	84.6%	5545	22.3%	3.3%	18408	64.5%	$ 33,986	$ 40,402	1100	10.9%	4973	13.9%
$ 35,200	$ 200	17600%	-17500%	Washington	44	2	5%	33941	26160	7781	13	13	31728	93.5%	2.84	10969	77.7%	3149	22.3%	7030	64.1%	$ 68,700	18759	79.9%	3442	14.7%	5.4%	15500	57.0%	$ 25,869	$ 31,657	1319	14.2%	6272	19.0%
$ 2,633,500	$ 1,830,200	144%	-44%	Sagadahoc	34	10	29%	35214	26140	9074	12	10	33977	96.5%	2.96	10174	72.1%	3943	27.9%	7115	69.9%	$ 110,200	20992	88.0%	5963	25.0%	4.4%	18952	69.6%	$ 41,908	$ 49,714	673	6.9%	3014	8.6%
$ 405,200	$ 745,000	54%	46%	Somerset	27	9	33%	50888	38325	12563	9	8	50434	99.1%	2.87	15952	77.8%	4544	22.2%	8705	54.6%	$ 70,100	28083	80.8%	4094	11.8%	4.3%	24774	62.0%	$ 30,731	$ 36,464	1570	11.1%	7471	14.9%
$ 40,000	$ 127,437	31%	69%	Oxford	24	2	8%	54755	41521	13234	7	7	53797	98.3%	2.87	17172	77.0%	5142	23.0%	10546	61.4%	$ 82,800	31236	82.4%	5959	15.7%	4.5%	27137	62.7%	$ 33,435	$ 39,794	1270	8.3%	6353	11.8%
$ 203,800	$ 217,800	94%	6%	Franklin	17	3	18%	29467	22538	6929	15	15	28865	98.0%	2.88	8981	76.1%	2825	23.9%	5542	61.7%	$ 78,300	16415	85.2%	4021	20.9%	4.9%	14821	63.4%	$ 31,459	$ 37,863	833	10.7%	4121	14.6%
$ 125,000	$ 350,000	36%	64%	Lincoln	16	1	6%	33616	25989	7627	14	14	33099	98.5%	2.82	11755	83.0%	2403	17.0%	7338	62.4%	$ 119,900	21187	87.9%	6412	26.6%	2.8%	16985	63.0%	$ 38,686	$ 45,427	636	6.6%	3375	10.1%
				Piscataquis				17235	13201	4034	16	16	16862	97.8%	2.83	5789	79.5%	1489	20.5%	3625	62.6%	$ 62,300	9827	80.3%	1631	13.3%	3.4%	7922	57.4%	$ 28,250	$ 34,852	543	11.2%	2522	14.8%
				US						25.7%				75.1%	3.14		66.2%		33.8%			$ 119,600		80.4%		24.4%	17.9%		63.9%	$ 41,994	$ 50,046		9.2%		12.4%
				ME						23.6%				96.9%	2.9		71.6%		28.4%	254866	68.7%	$ 98,700		85.4%		22.9%	7.8%		65.3%	$ 37,240	$ 45,179	26611	7.8%	135501	10.9%

County	# of Juv Inc Reported	Total Population Rank	Under 18 Population Rank	Rank for HS Grads	Rank for BS+ degrees	Family income rank	Median Household Value Rank	Rank Numbers of Families Below Poverty	Rank Numbers of Indiv Below Poverty	Rank of County Pop % Families Under Poverty	Rank of County Pop% Indiv Under Poverty
Penobscot	**350**	3	3	7	10	9	11	1	2	7	7
Cumberland	**205**	1	1	1	1	1	1	2	1	16	16
Knox	**145**	10	11	5	4	6	4	13	13	14	12
Androscoggin	**141**	5	5	15	14	5	8	5	5	10	10
York	**117**	2	2	6	6	2	2	3	3	15	15
Hancock	**71**	8	9	4	2	8	6	11	10	11	11
Aroostook	**61**	6	6	16	13	14	16	6	6	6	5
Kennebec	**57**	4	4	8	9	7	9	4	4	8	9
Waldo	**55**	11	12	10	7	10	7	10	11	4	6
Washington	**44**	13	13	14	12	16	14	8	9	1	1
Sagadahoc	**34**	12	10	2	5	3	5	14	15	12	14
Somerset	**27**	9	8	12	16	13	13	7	7	3	2
Oxford	**24**	7	7	11	11	11	10	9	8	9	8
Franklin	**17**	15	15	9	8	12	12	12	12	5	4
Lincoln	**16**	14	14	3	3	4	3	15	14	13	13
Piscataquis		16	16	13	15	15	15	16	16	2	3

Attachment 4 -- Juvenile Fire Incident Dollar Loss & Value 2004-early 2008 (Sorted by Maine county, then town alphabetically)

Town/City	# of Reptd JuvenFires 2004-2008	# Inc with $ Data	% of total Inc with $ data	Value Property	Value Other	Loss Property	Loss Other	Loss Total	Total Value	County
Auburn	57	31	54%	$ 12,763,900	$ 1,243,700	$ 696,600	$ 258,500	$ 955,100	$ 14,007,600	Androscog
Lewiston	70	30	43%	$ 2,080,560	$ 292,300	$ 1,697,310	$ 415,075	$ 2,112,385	$ 2,372,860	Androscog
Turner	2	0	0%							Androscog
Sabattus	12	0	0%							Androscog
TOTAL Androscoggin	**141**	**61**	**43%**							
Bridgewater	7	5	71%	$ 231,000	$ 245,000	$ 166,000	$ 245,000	$ 411,000	$ 476,000	Aroostook
Caribou	2	1	50%	$ 800	$ 2,000				$ 2,800	Aroostook
T16 R4	1	0	0%							Aroostook
Fort Fairfield	10	0	0%							Aroostook
Amity	1	0	0%							Aroostook
Cary	1	0	0%							Aroostook
Houlton	7	0	0%							Aroostook
New Limerick	1	0	0%							Aroostook
Littleton	1	0	0%							Aroostook
Presque Isle	23	8	35%	$ 706,000	$ 30,000	$ 270,400	$ 7,000	$ 277,400	$ 736,000	Aroostook
Perham	1	0	0%							
Washburn	6	0	0%							
TOTAL Aroostook	**61**	**14**	**23%**							
Portland	34	14	41%	$ 1,804,525	$ 200,100	$ 32,275	$ 2,700	$ 34,975	$ 2,004,625	Cumberlan
Gorham	3	2	67%	$ 120,000	$ 60,000	$ 120,000	$ 60,000	$ 180,000	$ 180,000	Cumberla
Westbrook	100	51	51%	$ 18,089,867	$ 4,794,550	$ 1,818,475	$ 1,028,900	$ 2,847,375	$ 22,884,417	Cumberla
Brunswick	2	2	100%	$ 61,500	$ 200	$ 51,500	$ 200	$ 51,700	$ 61,700	Cumberla
Chebeague Island	1	1	100%	$ 1,000	$ -	$ 300	$ -	$ 300	$ 1,000	Cumberla
Cumberland	17	9	53%	$ 1,581,200	$ 556,100	$ 248,800	$ 191,300	$ 440,100	$ 2,137,300	Cumberla
Freeport	1	1	100%				$ 12	$ 12		Cumberla
Gray	6	0	0%							Cumberla
New Gloucester	24	7	29%	$ 327,000	$ 68,200	$ 220,000	$ 64,200	$ 284,200	$ 395,200	Cumberla
Pownal	1	0	0%							Cumberla
Raymond	2	1	50%	$ 596,200	$ 100,000	$ 200,000	$ 40,000	$ 240,000	$ 696,200	Cumberla
Scarborough	5	4	80%	$ 5,702,200	$ 15,000	$ 826,500	$ 1,500	$ 828,000	$ 5,717,200	Cumberla
Yarmouth	9	0	0%							Cumberla
TOTAL Cumberland	**205**	**92**	**45%**							
Farmington	9	2	22%	$ 17,500	$ 300	$ 3,500	$ 300	$ 3,800	$ 17,800	Franklin
New Vineyard	2	0	0%						$ -	Franklin
Strong	6	1	17%	$ -	$ 200,000	$ -	$ 200,000	$ 200,000	$ 200,000	Franklin
TOTAL Franklin	**17**	**3**	**18%**							

Bucksport	29	8	28%	$ 1,076,500	$ 86,700	$ 169,400	$ 28,700	$ 198,100	$ 1,163,200	Hancock
Dedham	7	2	29%	$ 29,000	$ -	$ 29,000	$ -	$ 29,000	$ 29,000	Hancock
Birch Harbor	2	0	0%							Hancock
Corea	1	0	0%							Hancock
Gouldsboro	8	0	0%							Hancock
Prospect Harbor	2	0	0%							Hancock
West Gouldsboro	1	0	0%							Hancock
Northeast Harbor	1	0	0%							Hancock
Orland	10	0	0%							Hancock
Sedgwick	10	0	0%							Hancock
TOTAL Hancock	**71**	**10**	**14%**	$ 1,105,500	$ 86,700	$ 198,400	$ 28,700	$ 227,100	$ 1,192,200	
Augusta	7	5	71%	$ 1,500	$ 700	$ 31,500	$ 5,700	$ 37,200	$ 2,200	Kennebec
Sidney	1	0	0%							Kennebec
Waterville	17	5	29%	$ 303,175	$ 15,000	$ 17,500	$ 2,450	$ 19,950	$ 318,175	Kennebec
Chelsea	14	10	71%	$ 308,000	$ 66,850	$ 182,500	$ 41,850	$ 224,350	$ 374,850	Kennebec
Farmingdale	2	0	0%							Kennebec
Gardiner	1	0	0%							Kennebec
Winslow	15	1	7%	$ 84,000	$ 12,000	$ 20,000	$ 2,000	$ 22,000	$ 96,000	Kennebec
TOTAL Kennebec	**57**	**21**	**37%**							
Rockland	54	9	17%	$ 3,940,200	$ 40,000	$ 391,000	$ 10,000	$ 401,000	$ 3,980,200	Knox
Camden	3	0	0%							Knox
Friendship	2	0	0%							Knox
Hope	6	5	83%	$ 335,000	$ 125,000	$ 60,000	$ 37,000	$ 97,000	$ 460,000	Knox
Rockport	20	15	75%	$ 4,250,400	$ 2,081,100	$ 791,500	$ 281,600	$ 1,073,100	$ 6,331,500	Knox
Thomaston	17	2	12%	$ 262,000	$ 250,000	$ 36,000	$ 50,000	$ 86,000	$ 512,000	Knox
Union	5	0	0%						$ -	Knox
Vinalhaven	3	3	100%	$ 27,500	$ 1,000	$ 27,500	$ 1,000	$ 28,500	$ 28,500	Knox
Warren	22	4	18%	$ 225,000	$ 50,000	$ 225,000	$ 50,000	$ 275,000	$ 275,000	Knox
Washington	13	1	8%	$ 165,000	$ 20,000	$ 165,000	$ 20,000	$ 185,000	$ 185,000	Knox
TOTAL Knox	**145**	**39**	**27%**	$ 9,205,100	$ 2,567,100	$ 1,696,000	$ 449,600	$ 2,145,600	$ 11,772,200	
Jefferson	6	0	0%						$ -	Lincoln
Newcastle	10	1	10%	$ 350,000	$ -	$ 125,000	$ -	$ 125,000	$ 350,000	Lincoln
TOTAL Lincoln	**16**	**1**	**6%**							
Peru	11	0	0%							Oxford
Hanover	1	0	0%							Oxford
Rumford	6	2	33%	$ 107,437	$ 20,000	$ 30,000	$ 10,000	$ 40,000	$ 127,437	Oxford
Woodstock	6	0	0%							Oxford
TOTAL Oxford	**24**	**2**	**8%**							

Bangor	138	44	32%	$ 6,799,500	$ 2,651,945	$ 5,831,350	$ 2,617,945	$ 8,449,295	$ 9,451,445	Penobscot
Old Town	40	16	40%	$ 2,425,510	$ 416,750	$ 864,779	$ 61,750	$ 926,529	$ 2,842,260	Penobscot
Carmel	16	5	31%	$ 455,500	$ 57,000	$ 356,000	$ 56,750	$ 412,750	$ 512,500	Penobscot
Charleston	5	0	0%						$ -	Penobscot
Corinth	18	12	67%	$ 1,558,250	$ 513,501	$ 326,250	$ 205,701	$ 531,951	$ 2,071,751	Penobscot
Greenbush	12	0	0%						$ -	Penobscot
Hampden	12	4	33%	$ 328,759	$ 50,000	$ 88,659	$ 25,000	$ 113,659	$ 378,759	Penobscot
Holden	14	5	36%	$ 431,350	$ 220,000	$ 93,000	$ 45,000	$ 138,000	$ 651,350	Penobscot
Howland	1	0	0%						$ -	Penobscot
Hudson	3	0	0%						$ -	Penobscot
Chester	6	0	0%						$ -	Penobscot
Enfield	1	0	0%						$ -	Penobscot
Lincoln	28	2	7%	$ 134,999	$ 60,150	$ 35,000	$ 5,000	$ 40,000	$ 195,149	Penobscot
Grindstone	1		0%						$ -	Penobscot
Medway	5		0%						$ -	Penobscot
Greenfield	1		0%						$ -	Penobscot
Milford	4		0%						$ -	Penobscot
TWP 32	1		0%						$ -	Penobscot
Orono	35	27	77%	$ 990,600	$ 362,830	$ 219,901	$ 178,231	$ 398,132	$ 1,353,430	Penobscot
Stetson	4	3	75%	$ 333,500	$ 10,000	$ 134,500	$ 10,000	$ 144,500	$ 343,500	Penobscot
Veazie	5	1	20%	$ 1,000	$ 2,000	$ 1,000	$ 2,000	$ 3,000	$ 3,000	Penobscot
Total Penobscot	**350**	**119**	**34%**							
Bath	1	1	100%			$ 1,000,000	$ 250,000	$ 1,250,000		Sagadaho
Pejepscot Village	1	0	0%							Sagadaho
Topsham	32	9	28%	$ 1,389,500	$ 440,700	$ 967,000	$ 416,500	$ 1,383,500	$ 1,830,200	Sagadaho
Total Sagadahoc	**34**	**10**	**29%**							
Bingham	3	0	0%						$ -	Somerset
Concord	1	0	0%						$ -	Somerset
Mayfield	1	0	0%						$ -	Somerset
Moscow	2	0	0%						$ -	Somerset
Benton	4	2	50%	$ 100,000	$ 50,000	$ 108,000	$ 50,000	$ 158,000	$ 150,000	Somerset
Fairfield	4	0	0%						$ -	Somerset
Jackman	8	4	50%	$ 345,000	$ 95,000	$ 100,000	$ 41,000	$ 141,000	$ 440,000	Somerset
Long Pond	2	2	100%	$ 60,000	$ 35,000	$ 21,000	$ 25,200	$ 46,200	$ 95,000	Somerset
Moose River	2	1	50%	$ 50,000	$ 10,000	$ 50,000	$ 10,000	$ 60,000	$ 60,000	Somerset
Total Somerset	**27**	**9**	**33%**							
Belfast	19	0	0%						$ -	Waldo
Swanville	7	0	0%						$ -	Waldo
Morrill	5	0	0%						$ -	Waldo
Northport	8	2	25%	$ 235,000	$ 25,000	$ 26,000	$ 11,000	$ 37,000	$ 260,000	Waldo
Montville	1	0	0%						$ -	Waldo
Searsmont	7	0	0%						$ -	Waldo
Stockton Springs	1	0	0%						$ -	Waldo
Unity	4	3	75%	$ 35,200	$ 15,400	$ 35,200	$ 15,400	$ 50,600	$ 50,600	Waldo
Winterport	3	0	0%						$ -	Waldo
Total Waldo	**55**	**5**	**9%**							

Calais	33	1	3%	$ 200	$ -	$ 200	$ -	$ 200	$ 200	Washingto
Danforth	1	0	0%						$ -	Washingto
Orient	4	0	0%						$ -	Washingto
Weston	1	0	0%						$ -	Washingto
Princeton	1	1	100%			$ 30,000	$ 5,000	$ 35,000	$ -	Washingto
Codyville	1	0	0%						$ -	Washingto
Topsfield	3	0	0%							Washingto
Total Washington	**44**	**2**	**5%**							
Biddeford	4	1	25%				$ 100	$ 100	$ -	York
Saco	9	7	78%	$ 257,050	$ 25,000	$ 83,800	$ 25,200	$ 109,000	$ 282,050	York
Kennebunk	2	0	0%						$ -	York
Kennebunkport	1	1	100%	$ 178,865		$ -	$ 2,000	$ 2,000	$ 178,865	York
Kittery	7	0	0%						$ -	York
Kittery Point	1	0	0%						$ -	York
Lebanon	1	1	100%	$ 214,000	$ 75,000	$ 3,000	$ 1,000	$ 4,000	$ 289,000	York
Arundel	2	0	0%						$ -	York
Sanford	26	16	62%	$ 1,383,565	$ 352,750	$ 388,765	$ 106,750	$ 495,515	$ 1,736,315	York
Springvale	5	4	80%	$ 473,000	$ 226,450	$ 233,000	$ 166,450	$ 399,450	$ 699,450	York
South Berwick	23	9	39%	$ 4,168,075	$ 322,200	$ 480,500	$ 222,500	$ 703,000	$ 4,490,275	York
East Waterboro	3	1	33%	$ 500,000	$ 100,000	$ 500,000	$ 100,000	$ 600,000	$ 600,000	York
North Waterboro	3	0	0%							
Wells	11	3	27%	$ 260,500	$ 35,100	$ 235,500	$ 25,100	$ 260,600	$ 295,600	York
Parsonsfield	12	0	0%						$ -	York
Porter	7	0	0%						$ -	York
Total York	**117**	**43**	**37%**	$ 7,435,055	$ 1,136,500	$ 1,924,565	$ 649,100	$ 2,573,665	$ 8,571,555	York

Attachment 5a – Maine Statute – Fire Reporting

25 §2395. Filing statement of fire occurrence

25 §2395. Filing statement of fire occurrence

The municipal fire chief or a designee shall submit to the State Fire Marshal an incident report for each response made, regardless of whether an actual fire occurred. The report must be submitted in a manner consistent with a national fire incident reporting system. [2007, c. 82, §2 (AMD).]

SECTION HISTORY
1969, c. 377, §3 (AMD). 1971, c. 592, §8 (AMD). 1973, c. 632, §5 (RPR).
1979, c. 44, (AMD). 2007, c. 82, §2 (AMD).

Attachment 5b – Locations of Fire Incident, Reports by Year

Reported in 2004 and no other year

Town	Zip	FDID	County
Amity	04730	B2780	Aroostook
Caribou	04736	B1670	Aroostook
Cary	04730	B2780	Aroostook
Houlton	04730	B2780	Aroostook
Littleton	04730	B3120	Aroostook
New Limerick	04730	B2780	Aroostook
T16R4	04783	B1670	Aroostook
New Vineyard	04956	D3660	Franklin
Birch Harbor	04613	E2510	Hancock
West Gouldsboro	04607	E2510	Hancock
Farmingdale	04344	F2330	Kennebec
Gardiner	04345	F2330	Kennebec
Friendship	04547	G2440	Knox
Union	04862	G4800	Knox
Hanover	04237	I4240	Oxford
Rumford	04276	I4240	Oxford
Enfield	04493	J3070	Penobscot
Greenfield	04423	J3420	Penobscot
Hudson	04449	J2800	Penobscot
Milford	04461	J3420	Penobscot
TWP32	04461	J3420	Penobscot
Pejepscot Village	04086	L4740	Sagadahoc
Bingham	04920	M1340	Somerset
Montville	04941	N4320	Waldo
Searsmont	04973	N4320	Waldo
Winterport	04496	N5230	Waldo
Weston	04424	P2010	Washington

Reported in 2004 & 2005 but no subsequent years

Town	Zip	FDID	County
Bridgewater	04735	B1460	Aroostook
Washburn	04786	B4970	Aroostook
Cumberland	04021	C1970	Cumberland
Winslow	04901	F5210	Kennebec
Vinalhaven	04863	G4890	Knox
Jefferson	04348	H2870	Lincoln
Peru	04290	I3990	Oxford
Woodstock	04219	I5270	Oxford
Moscow	04920	M1340	Somerset
Belfast	04915	N0050	Waldo
Swanville	04915	N0050	Waldo

Kittery	03904	R2950	York
Parsonsfield	04047	R5200	York
Porter	04068	R5200	York

Reported in 04-07

Town	Zip	FDID	County
Lewiston	04240	A0160	Androscoggin
Portland	04102	C0190	Cumberland
Westbrook	04092	C0260	Cumberland
Sedgwick	04676	E4360	Hancock
Waterville	04901	F0250	Kennebec
Rockport	04856	G4200	Knox
Warren	04864	G4960	Knox
Bangor	04401	J0030	Penobscot
Lincoln	04457	J3070	Penobscot
Orono	04473	J3820	Penobscot
Topsham	04086	L4740	Sagadahoc
Benton	04901	M2310	Somerset
Morrill	04952	N3510	Waldo
Calais	04619	P0090	Washington
Sanford	04073	R4290	York
South Berwick	03098	R4470	York
Springvale	04083	R4290	York
Wells	04090	R5050	York

Reported in 04-08

Town	Zip	FDID	County
Westbrook	04092	C0260	Cumberland
Sanford	04073	R4290	York
South Berwick	03098	R4470	York
Wells	04090	R5050	York

Reported 2005-2008

Town	Zip	FDID	County
New Gloucester	04260	C3590	Cumberland
Carmel	04419	J1760	Penobscot

Reported 2005-2007

Town	Zip	FDID	County
Auburn	04210	A0010	Androscoggin
New Gloucester	04260	C3590	Cumberland
Farmington	04938	D2340	Franklin
Washington	04574	G4980	Knox
Carmel	04419	J1760	Penobscot
Greenbush	04418	J2540	Penobscot

Attachment 5b continued – Full List of Towns that Reported using MEFIRS (in which Juvenile Fire Incidents were located that filed reports in one or more years)

Towns Did Report 2004	FDID	Towns Did Report 2005	FDID	Towns Did Report 2006	FDID	Towns Did Report 2007	FDID	Towns Did Report 2008	FDID
Lewiston	A0160	Auburn	A0010	Auburn	A0010	Auburn	A0010		
Sabattus	A5020	Lewiston	A0160	Lewiston	A0160	Lewiston	A0160		
				Sabattus	A5020	Turner	A4790		
				Turner	A4790				
Amity	B2780	Bridgewater	B1460	Fort Fairfield	B2360				
Bridgewater	B1460	Perham	B4970	Presque Isle	B4100				
Caribou	B1670	Presque Isle	B4100						
Cary	B2780	Washburn	B4970						
Houlton	B2780								
Littleton	B3120								
New Limerick	B2780								
Presque Isle	B4100								
T16R4	B1670								
Washburn	B4970								
Brunswick	C1550	Chebeague Island	C1970	Gray	C2530	Brunswick	C1550		
Cumberland	C1970	Cumberland	C1970	New Gloucester	C3590	Gorham	C0260		
Gray	C2530	Freeport	C2420	Portland	C0190	New Gloucester	C3590	New Gloucester	C3590
Portland	C0190	Gorham	C0260	Raymond	C4150	Portland	C0190	Pownal	C3590
Westbrook	C0260	New Gloucester	C3590	Scarborough	C4310	Raymond	C4150	Westbrook	C0260
Yarmouth	C5300	Portland	C0190	Westbrook	C0260	Scarborough	C4310		
		Westbrook	C0260	Yarmouth	C5300	Westbrook	C0260		
		Yarmouth	C5300						
New Vineyard	D3660	Farmington	D2340	Farmington	D2340	Farmington	D2340		
Strong	D4620			Strong	D4620	Strong	D4620		
Birch Harbor	E2510	Bucksport	E1570	Bucksport	E1570	Northeast Harbor	E3530		
Dedham	E2050	Corea	E2510	Dedham	E2050	Sedgwick	E4360		
Gouldsboro	E2510	Dedham	E2050	Gouldsboro	E2510				
Orland	E3800	Gouldsboro	E2510	Orland	E3800				
Sedgwick	E4360	Orland	E3800	Sedgwick	E4360				
West Gouldsboro	E2510	Prospect Harbor	E2510						
		Sedgwick	E4360						

Augusta	F0020	Augusta	F0020	Augusta	F0020	Chelsea	F1780		
Chelsea	F1780	Chelsea	F1780	Waterville	F0250	Sidney	F0250		
Farmingdale	F2330	Waterville	F0250			Waterville	F0250		
Gardiner	F2330	Winslow	F5210						
Waterville	F0250								
Winslow	F5210								
Friendship	G2440	Hope	G2770	Camden	G1630	Camden	G1630		
Hope	G2770	Rockland	G0210	Hope	G2770	Rockport	G4200		
Rockland	G0210	Rockport	G4200	Rockland	G0210	Warren	G4960		
Rockport	G4200	Thomaston	G4710	Rockport	G4200	Washington	G4980		
Thomaston	G4710	Vinalhaven	G4890	Thomaston	G4710				
Union	G4800	Warren	G4960	Warren	G4960				
Vinalhaven	G4890	Washington	G4980	Washington	G4980				
Warren	G4960								
Jefferson	H2870	Jefferson	H2870	Newcastle	H3570				
Newcastle	H3570	Newcastle	H3570						
Hanover	I4240	Peru	I3990						
Peru	I3990	Woodstock	I5270						
Rumford	I4240								
Woodstock	I5270								
Bangor	J0030	Bangor	J0030	Bangor	J0030				
Chester	J3070	Carmel	J1760	Carmel	J1760	Bangor	J0030	Carmel	J1760
Corinth	J1910	Charleston	J1760	Chester	J3070	Carmel	J1760	Hampden	J2660
Enfield	J3070	Chester	J3070	Corinth	J1910	Greenbush	J2540		
Greenfield	J3420	Corinth	J1910	Greenbush	J2540	Hampden	J2660		
Holden	J2750	Greenbush	J2540	Holden	J2750	Lincoln	J3070		
Hudson	J2800	Grindstone	J3370	Lincoln	J3070	Orono	J3820		
Lincoln	J3070	Holden	J2750	Old Town	J0180	Veazie	J4860		
Milford	J3420	Howland	J2790	Orono	J3820				
Old Town	J0180	Lincoln	J3070	Stetson	J4550				
Orono	J3820	Medway	J3370						
TWP32	J3420	Old Town	J0180						
Veazie	J4860	Orono	J3820						
		Stetson	J4550						
		Veazie	J4860						
Pejepscot Village	L4740	Topsham	L4740	Bath	L0040	Topsham	L4740		
Topsham	L4740			Topsham	L4740				
Benton	M2310	Benton	M2310	Benton	M2310	Benton	M2310		

Bingham	M1340	Concord	M1340	Jackman	M6250	Fairfield	M2310, F0250		
Fairfield	M2310, F0250	Jackman	M6250	Long Pond	M6250				
Jackman	M6250	Mayfield	M1340	Moose River	M6250				
Long Pond	M6250	Moscow	M1340						
Moscow	M1340								
Belfast	N0050	Belfast	N0050	Morrill	N3510	Morrill	N3510		
Montville	N4320	Morrill	N3510	Northport	N3730				
Morrill	N3510	Northport	N3730	Stockton Springs	N4580				
Northport	N3730	Swanville	N0050	Unity	N4810				
Searsmont	N4320	Unity	N4810						
Swanville	N0050								
Winterport	N5230								
Calais	P0090	Calais	P0090	Calais	P0090	Calais	P0090		
Topsfield	P4912	Codyville	P4912	Orient	P2010				
Weston	P2010	Danforth	P2010	Princeton	P4110				
		Orient	P2010	Topsfield	P4912				
Arundel	R3270	Kittery	R2950	Arundel	R3270	East Waterboro	R4990	Sanford	R4290
Kittery	R2950	Kittery Point	R2950	Biddeford	R0060	Kennebunk	R2910	South Berwick	R4470
Parsonsfield	R5200	Parsonsfield	R5200	Kennebunk	R2910	Lebanon	R2990	Wells	R5050
Porter	R5200	Porter	R5200	Kennebunkport	R2920	North Waterboro	R4990	**7 8 inc locations**	**FDIDs**
Saco	R0230	Saco	R0230	Saco	R0230	Sanford	R4290		
Sanford	R4290	Sanford	R4290	Sanford	R4290	South Berwick	R4470		
South Berwick	R4470	South Berwick	R4470	South Berwick	R4470	Springvale	R4290		
Springvale	R4290	Springvale	R4290	Springvale	R4290	Wells	R5050		
Wells	R5050	Wells	R5050	Wells	R5050	**41 inc locations**	**36 FDIDs**		
86 inc locations	**66 FDIDs**	**86 inc locations**	**66 FDIDs**	**63 inc locations**	**59 FDIDs**				

Attachment 5b continued – Towns that Did NOT Report in Specific Years (Juvenile Incidents MEFIRS) as of study

Towns No Report 2004	FDID	Towns No Report 2005	FDID	Towns No Report 2006	FDID	Towns No Report 2006	FDID	Towns No Report 2007	FDID	Towns No Report 2008	FDID
Auburn	A0010	Sabattus	A5020					Sabattus	A5020	Auburn	A0010
Turner	A4790	Turner	A4790							Lewiston	A0160
										Sabattus	A5020
										Turner	A4790
Fort Fairfield	B2360	Amity	B2780	Amity	B2780	Amity	B2780	Amity	B2780	Amity	B2780
Perham	B4970	Caribou	B1670	Bridgewater	B1460	Bridgewater	B1460	Bridgewater	B1460	Bridgewater	B1460
		Cary	B2780	Caribou	B1670	Caribou	B1670	Caribou	B1670	Caribou	B1670
		Fort Fairfield	B2360	Cary	B2780	Cary	B2780	Cary	B2780	Cary	B2780
		Houlton	B2780	Houlton	B2780	Houlton	B2780	Fort Fairfield	B2360	Fort Fairfield	B2360
		Littleton	B3120	Littleton	B3120	Littleton	B3120	Houlton	B2780	Houlton	B2780
		New Limerick	B2780	New Limerick	B2780	New Limerick	B2780	Littleton	B3120	Littleton	B3120
		T16R4	B1670	Perham	B4970	Perham	B4970	New Limerick	B2780	New Limerick	B2780
				T16R4	B1670	T16R4	B1670	Perham	B4970	Perham	B4970
				Washburn	B4970	Washburn	B4970	Presque Isle	B4100	Presque Isle	B4100
								T16R4	B1670	T16R4	B1670
								Washburn	B4970	Washburn	B4970
Chebeague Island	C1970	Brunswick	C1550	Brunswick	C1550	Brunswick	C1550	Chebeague Island	C1970	Brunswick	C1550
Freeport	C2420	Gray	C2530	Chebeague Island	C1970	Chebeague Island	C1970	Cumberland	C1970	Chebeague Island	C1970
Gorham	C0260	Pownal	C3590	Cumberland	C1970	Cumberland	C1970	Freeport	C2420	Cumberland	C1970
New Gloucester	C3590	Raymond	C4150	Freeport	C2420	Freeport	C2420	Gray	C2530	Freeport	C2420
Pownal	C3590	Scarborough	C4310	Gorham	C0260	Gorham	C0260	Pownal	C3590	Gorham	C0260
Raymond	C4150			Pownal	C3590	Pownal	C3590	Yarmouth	C5300	Gray	C2530
Scarborough	C4310									Portland	C0190
										Raymond	C4150
										Scarborough	C4310
										Yarmouth	C5300
Farmington	D2340							New Vineyard	D3660	Farmington	D2340
										New Vineyard	D3660
										Strong	D4620
Bucksport	E1570							Birch Harbor	E2510	Birch Harbor	E2510
Corea	E2510	New Vineyard	D3660	New Vineyard	D3660	New Vineyard	D3660	Bucksport	E1570	Bucksport	E1570
Northeast Harbor	E3530	Strong	D4620					Corea	E2510	Corea	E2510
Prospect Harbor	E2510			Birch Harbor	E2510	Birch Harbor	E2510	Dedham	E2050	Dedham	E2050
		Birch Harbor	E2510	Corea	E2510	Corea	E2510	Gouldsboro	E2510	Gouldsboro	E2510
		Northeast Harbor	E3530	Northeast Harbor	E3530	Northeast Harbor	E3530	Orland	E3800	Northeast Harbor	E3530
		West Gouldsboro	E2510	Prospect Harbor	E2510	Prospect Harbor	E2510	Prospect Harbor	E2510	Orland	E3800
				West Gouldsboro	E2510	West Gouldsboro	E2510	West Gouldsboro	E2510	Prospect Harbor	E2510
										Sedgwick	E4360
										West Gouldsboro	E2510
Sidney	F0250	Farmingdale	F2330	Chelsea	F1780	Chelsea	F1780	Augusta	F0020	Augusta	F0020
		Gardiner	F2330	Farmingdale	F2330	Farmingdale	F2330	Farmingdale	F2330	Chelsea	F1780
		Sidney	F0250	Gardiner	F2330	Gardiner	F2330	Gardiner	F2330	Farmingdale	F2330
				Sidney	F0250	Sidney	F0250	Winslow	F5210	Gardiner	F2330
				Winslow	F5210	Winslow	F5210			Sidney	F0250
										Waterville	F0250
										Winslow	F5210

Camden	G1630	Camden	G1630	Friendship	G2440	Friendship	G2440	Friendship	G2440	Camden	G1630
Washington	G4980	Friendship	G2440	Union	G4800	Union	G4800	Hope	G2770	Friendship	G2440
		Union	G4800	Vinalhaven	G4890	Vinalhaven	G4890	Rockland	G0210	Hope	G2770
								Thomaston	G4710	Rockland	G0210
								Union	G4800	Rockport	G4200
								Vinalhaven	G4890	Thomaston	G4710
										Union	G4800
										Vinalhaven	G4890
										Warren	G4960
										Washington	G4980
				Jefferson	H2870	Jefferson	H2870	Jefferson	H2870	Jefferson	H2870
								Newcastle	H3570	Newcastle	H3570
		Hanover	I4240	Hanover	I4240	Hanover	I4240	Hanover	I4240	Hanover	I4240
		Rumford	I4240	Peru	I3990	Peru	I3990	Peru	I3990	Peru	I3990
				Rumford	I4240	Rumford	I4240	Rumford	I4240	Rumford	I4240
				Woodstock	I5270	Woodstock	I5270	Woodstock	I5270	Woodstock	I5270
Carmel	J1760	Enfield	J3070	Charleston	J1760	Charleston	J1760	Charleston	J1760	Bangor	J0030
Charleston	J1760	Greenfield	J3420	Enfield	J3070	Enfield	J3070	Chester	J3070	Charleston	J1760
Greenbush	J2540	Hampden	J2660	Greenfield	J3420	Greenfield	J3420	Corinth	J1910	Chester	J3070
Grindstone	J3370	Hudson	J2800	Grindstone	J3370	Grindstone	J3370	Enfield	J3070	Corinth	J1910
Hampden	J2660	Milford	J3420	Hampden	J2660	Hampden	J2660	Greenfield	J3420	Enfield	J3070
Howland	J2790	TWP32	J3420	Howland	J2790	Howland	J2790	Grindstone	J3370	Greenbush	J2540
Medway	J3370			Hudson	J2800	Hudson	J2800	Holden	J2750	Greenfield	J3420
Stetson	J4550			Medway	J3370	Medway	J3370	Howland	J2790	Grindstone	J3370
				Milford	J3420	Milford	J3420	Hudson	J2800	Holden	J2750
				TWP32	J3420	TWP32	J3420	Medway	J3370	Howland	J2790
				Veazie	J4860	Veazie	J4860	Milford	J3420	Hudson	J2800
								Old Town	J0180	Lincoln	J3070
								Stetson	J4550	Medway	J3370
								TWP32	J3420	Milford	J3420
										Old Town	J0180
										Orono	J3820
										Stetson	J4550
										TWP32	J3420
										Veazie	J4860
Bath	L0040	Bath	L0040					Bath	L0040	Bath	L0040
		Pejepscot		Pejepscot		Pejepscot		Pejepscot		Pejepscot	
		Village	L4740	Village	L4740	Village	L4740	Village	L4740	Village	L4740
										Topsham	L4740
		Bingham	M1340	Bingham	M1340	Bingham	M1340	Bingham	M1340	Benton	M2310
Concord	M1340	Fairfield	M2310, F0250	Concord	M1340	Concord	M1340	Concord	M1340	Bingham	M1340
Mayfield	M1340	Long Pond	M6250	Fairfield	M2310, F0250	Fairfield	M2310, F0250	Jackman	M6250	Concord	M1340
Moose River	M6250	Moose River	M6250	Mayfield	M1340	Mayfield	M1340	Long Pond	M6250		M2310,
				Moscow	M1340	Moscow	M1340	Mayfield	M1340	Fairfield	F0250
								Moose River	M6250	Jackman	M6250
								Moscow	M1340	Long Pond	M6250
										Mayfield	M1340
										Moose River	M6250
										Moscow	M1340
Stockton Springs	N4580	Montville	N4320	Belfast	N0050	Belfast	N0050	Belfast	N0050	Belfast	N0050
Unity	N4810	Searsmont	N4320	Montville	N4320	Montville	N4320	Montville	N4320	Montville	N4320
		Stockton Springs	N4580	Searsmont	N4320	Searsmont	N4320	Northport	N3730	Morrill	N3510
		Winterport	N5230	Swanville	N0050	Swanville	N0050	Searsmont	N4320	Northport	N3730
								Stockton			
				Winterport	N5230	Winterport	N5230	Springs	N4580	Searsmont	N4320
										Stockton	
								Swanville	N0050	Springs	N4580
								Unity	N4810	Swanville	N0050
								Winterport	N5230	Unity	N4810
										Winterport	N5230
Codyville	P4912	Princeton	P4110	Codyville	P4912	Codyville	P4912	Codyville	P4912	Calais	P0090

Danforth	P2010
Orient	P2010
Princeton	P4110
Biddeford	R0060
East Waterboro	R4990
Kennebunk	R2910
Kennebunkport	R2920
Kittery Point	R2950
Lebanon North	R2990
Waterboro	R4990
	37
44 locations	**FDID**

Topsfield	P4912
Weston	P2010
Arundel	R3270
Biddeford	R0060
East Waterboro	R4990
Kennebunk	R2910
Kennebunkport	R2920
Lebanon North	R2990
Waterboro	R4990
	54
locations	**FDIDs**

Danforth	P2010
Weston	P2010
East Waterboro	R4990
Kittery	R2950
Kittery Point	R2950
Lebanon North	R2990
Waterboro	R4990
Parsonsfield	R5200
Porter	R5200
	44
67 locations	**FDIDs**

Danforth	P2010
Weston	P2010
East Waterboro	R4990
Kittery	R2950
Kittery Point	R2950
Lebanon North	R2990
Waterboro	R4990
Parsonsfield	R5200
Porter	R5200
	44
67 locations	**FDIDs**

Danforth	P2010
Orient	P2010
Princeton	P4110
Topsfield	P4912
Weston	P2010
Arundel	R3270
Biddeford	R0060
Kennebunkport	R2920
Kittery	R2950
Kittery Point	R2950
Parsonsfield	R5200
Porter	R5200
Saco	R0230
	71
89 locations	**FDIDs**

Codyville	P4912
Danforth	P2010
Orient	P2010
Princeton	P4110
Topsfield	P4912
Weston	P2010
Arundel	R3270
Biddeford	R0060
East Waterboro	R4990
Kennebunk	R2910
Kennebunkport	R2920
Kittery	R2950
Kittery Point	R2950
Lebanon North	R2990
Waterboro	R4990
Parsonsfield	R5200
Porter	R5200
Saco	R0230
Springvale	R4290
	68
122 locations	**FDIDs**

Attachment 6 – Incident Types and Property Use Counts for Maine Juvenile Fire Incidents 2004-early 2008

Incident Types

IN_TYPE	Incident Type Definition	# of juv inc 04-08	% of 1364 total juv inc 04-08
111	building fire (excludes confined fires)	616	45.16%
131	passenger vehicle	355	26.03%
142	brush	36	2.64%
112	structure other than bldg	34	2.49%
113	cooking fire	32	2.35%
130	mobile prop - other	32	2.35%
121	mobile home/fixed res	24	1.76%
162	outside equipment	24	1.76%
110	conversion code	23	1.69%
138	off-road veh	22	1.61%
132	road freight	18	1.32%
143	grass fire	15	1.10%
161	outside storage	15	1.10%
141	forest, woods	14	1.03%
154	dumpster	13	0.95%
114	chimney	12	0.88%
140	natural vegetation	10	0.73%
151	outside trash (no container)	9	0.66%
160	special outside fire	8	0.59%
118	trash in a structure (no flame damage struct)	7	0.51%
122	motor home/rec vehicle	6	0.44%
150	outside rubbish, other	6	0.44%
100	fire	5	0.37%
163	outside gas/vapor	5	0.37%
116	fuel burner/boiler	4	0.29%
123	portable bldg	4	0.29%
164	outside mailbox	3	0.22%
133	rail veh	3	0.22%
134	water veh	3	0.22%
120	mobile property	2	0.15%
153	construction/demo	1	0.07%
135	aircraft fire	1	0.07%
136	self-propelled motor home	1	0.07%
137	camper, rec-veh (not self-prop)	1	0.07%
	blanks (no entry)	0	0.00%

Attachment 6 continued– Incident Types and Property Use Counts for Maine Juvenile Fire Incidents 2004-early 2008

Property Use

IN_PROPERTYUSE	PROPUSEDEF	Out/In	Number of Fires 2004-current	% of Total JFS fires 04-early08
419	1or 2 family dwelling, fixed	I	450	32.99%
429	multi-family dwelling	I	125	9.16%
962	residential street	O	120	8.80%
965	vehicle parking area	O	98	7.18%
931	open land, grass	O	55	4.03%
961	highway	O	53	3.89%
960	street, other	O	32	2.35%
700	manufacturing processing	B	31	2.27%
808	outbuilding or shed	O	31	2.27%
963	street, commercial	O	21	1.54%
400	residential, other	I	18	1.32%
	Blank		14	1.03%
938	cultivated landscapes	O	15	1.10%
881	parking garage, detached resid gar	I	15	1.10%
161	restaurant, cafeteria (carryout, d-thru)	I	13	0.95%
900	outside, special property, other	O	12	0.88%
880	vehicle storage, other	I	11	0.81%
579	car/boat sales	I	10	0.73%
519	food, bev sales (grocery)	I	10	0.73%
926	outbuilding, mailbox, telephone booth, weather shelters	O	10	0.73%
000	property use, other	B	10	0.73%
NNN	None	B	9	0.66%
511	convenience store	I	8	0.59%
891	warehouse	I	8	0.59%
460	dorm	I	7	0.51%
500	mercantile, business, other	I	7	0.51%
807	outside material storage area	O	7	0.51%
569	prof supplies shop	I	7	0.51%
936	vacant lot	O	7	0.51%
100	assembly, other	B	6	0.44%
919	dump, landfill, recyc	O	6	0.44%
571	fuel station	I	6	0.44%
449	hotel, commercial	I	6	0.44%
464	barracks	I	5	0.37%

599	business office	I	5	0.37%
213	elementary school	I	5	0.37%
215	high, middle school	I	5	0.37%
882	parking garage, general, commercial fleet	I	5	0.37%
800	residential storage, self-storage	I	5	0.37%
800	storage, other	B	5	0.37%
935	campsite with utilities	O	4	0.29%
631	dept/discount store	I	4	0.29%
581	railroad r.o.w.	O	4	0.29%
951	specialty shop	I	4	0.29%
549	Undetermined	B	4	0.29%
UUU	boarding house, hotel, shelter	I	3	0.22%
439	church, mosque	I	3	0.22%
131	clubhouse country club	B	3	0.22%
142	eating, drinking, other	I	3	0.22%
160	livestock production	B	3	0.22%
659	livestock, poultry shed	B	3	0.22%
819	bar, nightclub	I	2	0.15%
162	constuction site	O	2	0.15%
981	educational, other	I	2	0.15%
200	fire station	I	2	0.15%
888	fixed-use recreation	O	2	0.15%
110	gas distribution	O	2	0.15%
644	general retail, other	I	2	0.15%
580	household goods, repairs	I	2	0.15%
539	industrial plant yard	O	2	0.15%
984	lake, river, stream	O	2	0.15%
946	nursing homes	I	2	0.15%
311	recreational shop	I	2	0.15%
559	residential board/care	I	2	0.15%
459	water area, other	O	2	0.15%
940	adult ed ctr	I	1	0.07%
241	athletic club	I	1	0.07%
141	bank	I	1	0.07%
592	bridge, trestle	O	1	0.07%
921	casino, bingo	I	1	0.07%
144	courthouse	I	1	0.07%
155	defense, military	I	1	0.07%
898	dock, marina	B	1	0.07%
342	dr, dentist	I	1	0.07%
642	electrical distribution	B	1	0.07%
134	funeral, morgue, crematorium	I	1	0.07%
114	ice rink	B	1	0.07%

361	jail	I	1	0.07%
564	laundry shop	I	1	0.07%
151	library	I	1	0.07%
679	mine, quarry	O	1	0.07%
557	personal service	I	1	0.07%
596	post office	I	1	0.07%
150	public, government, other	I	1	0.07%
952	railroad yard	O	1	0.07%
648	sanitation utility	B	1	0.07%
123	stadium arena	B	1	0.07%
529	textile retail	I	1	0.07%
120	variable-use amusement	B	1	0.07%
647	water utility	B	1	0.07%
			1364	100.00%

Attachment 7 – Juvenile Fire Incident Area of Origin 2004 – early 2008

FR_AREAOFORIGIN	Area Origin Def	# of JFS	% of
00	engine area	221	16.2%
11	kitchen	127	9.3%
12	undetermined	127	9.3%
	blank (no entry)	82	6.0%
10	bedroom <5	59	4.3%
13	op, passenger area transportion equip	54	4.0%
74	vehicle storage	43	3.2%
78	vehicle, other	43	3.2%
23	common room	41	3.0%
25	outside areas, other	37	2.7%
21	substructure, crawl space	29	2.1%
22	wall surface	28	2.1%
82	area of origin, other	27	2.0%
73	storage areas, other	27	2.0%
66	bathroom, locker, portable toilet	24	1.8%
54	laundry	24	1.8%
46	open area	24	1.8%
42	cargo	23	1.7%
14	exterior surface	20	1.5%
35	structural areas	18	1.3%
75	entrance, lobby	17	1.2%
52	storage supplies, basement	17	1.2%
96	ceiling, floor assembly	16	1.2%
58	fuel tank, line	15	1.1%
32	function areas, other	15	1.1%
56	heating room	15	1.1%
55	terrace, courtyard	15	1.1%
09	highway, parking lot, st	14	1.0%
51	concealed wall space	12	0.9%
68	int stair, ramp	12	0.9%
67	chute, trash container	11	0.8%
83	ext balcony, unencl porch	11	0.8%
05	maintenance shop	11	0.8%
04	egress, exit, other	8	0.6%
16	vacant area	8	0.6%
72	attic	7	0.5%
01	closet	6	0.4%
86	duct	6	0.4%
33	processing room	6	0.4%
84	serv or equip area, other	6	0.4%
20	construction	5	0.4%
01	office	5	0.4%
62	storage room	5	0.4%
92	wildland	5	0.4%
64	assemby, <100	4	0.3%
03	bedroom >5	4	0.3%
24	packing, shipping, receiv	4	0.3%
31	sales area	4	0.3%
26	conduit, pipe, shaft	3	0.2%
53	mulitiple	3	0.2%
61	roof surface	3	0.2%
65	railroad r.o.w	2	0.1%
97	assembly, 100+	1	0.1%
27	awning	1	0.1%
81	cell, test	1	0.1%
94	chute (not trash)	1	0.1%
90	conveyor	1	0.1%

45	lab	1	0.1%
36	machinery room	1	0.1%
28	personal service area	1	0.1%
17	records storage, vault	1	0.1%
38	service areas, other	1	0.1%
37	switchgear, transformer	1	0.1%
91	arena, 100+		
44	assembly, sales, other		
77	bar, cafeteria		
15	computer room		
85	dark room, photo		
60	display window		
50	elevator, dumbwaiter		
40	encl w enriched oxygen		
41	enclosure, press air		
43	escalator		
70	exhibit, library		
71	ext stair, fire escape		
34	first-aid, minor surg		
63	hall		
30	incinerator		
93	light shaft		
UU	performance area		
98	pool		
47	projection, stagelight		
80	separate operator area (cockpit, bridge)		
76	surgery (major)		
95	technical processing, other		

Attachment 8 – Heat Sources Reported Maine Juvenile Fires 2004-early 2008

FR_HEAT SOURCE	Heat Source Definition	# of JFS incidents 2004-2008	% of 1364 records
UU	undetermined	462	34%
12	radiated heat op equip	149	11%
10	heat from op equip, other	93	7%
13	electrical arc	74	5%
11	spark op equip	71	5%
43	hot ember, ash	67	5%
	blank (no entry)	63	5%
40	hot smoldering, other	62	5%
00	heat sources, other	55	4%
60	heat from smoking material, open flame, other	39	3%
65	lighter	37	3%
61	cigarette	34	2%
66	candle	32	2%
64	match	24	2%
69	flame, torch, lantern	18	1%
63	undet smoking material	13	1%
56	Incend. device (flame thrower, torch)	11	1%
42	molten, hot material	10	1%
97	multiple heat sources, mult ignition	10	1%
68	backfire internal comb	7	1%
41	heat, spark friction	7	1%
72	spont comb, chem reac	7	1%
70	chem, nat heat sources, other	6	0%
73	lightning	6	0%
54	fireworks	3	0%
74	other static discharge	3	0%
71	sunlight	1	0%
53	blasting agent		
84	conducted heat from another fire		
50	explosive, firework, other		
83	flying ember (not chimney)		
81	heat from direct flame		
80	heat spread from another fire, other		
55	model rockets		
51	munitions		
62	pipe, cigar		
82	radiated heat, another fire		
67	road flare		

Attachment 9 – **Materials First Ignited n Maine Juvenile Fire Incidents 2004- early 2008**

Form of Material First Ignited

FR_ITEMFIRST IGNITED	**Form Material First Ignited**	# of JFS Inc 2004-2008	% of 1364 incidents
UU	undetermined	371	27%
	blank (no entry)	83	6%
81	elec wire, cable insulation	78	6%
17	structural member	59	4%
76	cooking materials	54	4%
62	flammable liquid from engine	54	4%
99	multiple items	50	4%
00	other	51	4%
96	rubbish	49	4%
12	exterior sidewall	42	3%
21	upholstered chair, veh seats	40	3%
15	interior wall covering	26	2%
65	flamm liq/gas uncontained, accelerants	23	2%
92	magazine, newspaper, files	22	2%
51	box, waste recept	22	2%
72	light vegetation	22	2%
20	furniture, utensils, other	19	1%
34	clothing, not on person	18	1%
64	flamm liq/gas (excludes engine systems)	17	1%
63	flammable liq/gas container, pipe (includes to engine)	15	1%
23	cabinetry	14	1%
70	organic materials, other	14	1%
32	bedding, heating pad	13	1%
94	dust, fiber lint	13	1%
26	household utensils	13	1%
31	mattress, pillow	13	1%
10	structural component	12	1%
25	appliance housing	11	1%
84	tire	11	1%
14	floor covering	8	1%
16	interior ceiling	8	1%
30	soft goods, other	8	1%
36	curtain	7	1%
13	exterior trim	7	1%
18	insulation	7	1%
33	linen	7	1%

97	oily rags	7	1%
59	rolled, wound material	7	1%
44	wood chips	6	0%
60	liquids, piping, filters, other	5	0%
66	pipe	5	0%
50	storage supplies, other	5	0%
11	exterior roof	4	0%
53	pallet, empty	4	0%
71	agricultural crop	3	0%
56	bale, baled storage	3	0%
83	belt drive	3	0%
61	atomized, vapor, aerosols	2	0%
91	book	2	0%
73	heavy vegetation	2	0%
38	luggage	2	0%
22	non-uphol chair	2	0%
85	railroad ties	2	0%
54	rope	2	0%
45	toy	2	0%
93	adhesive	1	0%
74	animal	1	0%
57	bulk storage	1	0%
42	decoration	1	0%
40	decoration, signs, other	1	0%
37	fabric	1	0%
86	fence, pole	1	0%
95	film, residue	1	0%
68	filter	1	0%
24	ironing board	1	0%
58	palletized material	1	0%
52	raw material	1	0%
43	sign	1	0%
47	tarp, tent	1	0%
82	transformer	1	0%
46	awning		0%
41	Christmas tree		0%
35	clothing on person		0%
77	feather or fur		0%
87	fertilizer		0%
75	human		0%
55	packing material		0%
67	pipe covering		0%
88	pyrotechnics		0%

Attachment 9 continued – **Materials First Ignited n Maine Juvenile Fire Incidents 2004- early 2008**

Type of Material First Ignited

FR_TYPEOFMATERIAL	**Type Material Defined**	# Juv Inc 04-08	% of total
UU	undetermined	346	25.37%
	blanks	235	17.23%
63	sawn wood	116	8.50%
71	fabric	97	7.11%
41	plastic	65	4.77%
23	gasoline	53	3.89%
99	multiple types of material	50	3.67%
67	paper	36	2.64%
27	cooking, transf, lubricating oil	36	2.64%
00	type of material first ignited (general heading)	36	2.64%
60	wood, paper, processed, other	33	2.42%
65	fiberboard	31	2.27%
68	cardboard	27	1.98%
20	flammable, comb liquid, other	25	1.83%
10	flammable gas, other	17	1.25%
54	hay, straw	17	1.25%
31	fat, grease	16	1.17%
57	food, starch	16	1.17%
50	natural product, manure	15	1.10%
64	plywood	15	1.10%
70	fabric, textiles, other	12	0.88%
61	wood chips, sawdust	12	0.88%
25	kerosense, #1, 2 fuel, diesel	10	0.73%
51	rubber, tire rubber	8	0.59%
12	LP gas	4	0.29%
80	material compounded with oil, other	4	0.29%
77	plastic coated fabric	4	0.29%
34	adhesive, resin, glue, soot	3	0.22%
26	cottonseed oil, #4, 5, 6, creosote	3	0.22%
74	fur, silk, other finished	3	0.22%
62	round timber	3	0.22%
86	asphalt treated material	2	0.15%
36	combustible metal	2	0.15%
24	turpentine, butyl-alcohol	2	0.15%
66	wood pulp, fiber	2	0.15%

56	coal, peat	1	0.07%
21	ether, pentane	1	0.07%
53	leather	1	0.07%
81	linoleum	1	0.07%
35	paint, varnish	1	0.07%
33	polish, wax	1	0.07%
58	tobacco	1	0.07%
30	volatile solid or chemical	1	0.07%
14	acetylene gas		0.00%
13	anesthetic gas		0.00%
52	cork		0.00%
55	grain, nat fiber		0.00%
76	human hair		0.00%
15	hydrogen		0.00%
22	JP-4 jet fuel, methyl-ethyle-ketone		0.00%
11	natural gas		0.00%
82	oilcloth		0.00%
32	petroleum jelly, nonfood grease		0.00%
38	radioactive material		0.00%
37	solid chemical		0.00%
75	wig		0.00%

Attachment 10 –Detection in Confined & Structure Fires w/Juveniles Involved, 04-08

Reported Confined Fires with Juvenile Involvement 2004-early 2008

IN_Detectors	Code Definition	Record Count
1	detector alerted	166
1A	?	2
2	detector did not alert	207
U	unknown	853
Blank	no entry recorded	136

Reported Structure Fires with Juvenile Involvement 2004-early 2008 (MEFIRS)

STR_DetectPresence			
1	Present	531	54.63%
N	None Present	346	35.60%
U	Undetermined	94	9.67%
Blank	no entry recorded	1	0.10%
		972	**TOTAL**

STR_DetectType	Code Definition	Record Count	Percent of Incidents
1	Smoke	396	40.74%
2	Heat	7	0.72%
3	Combo smoke/heat	32	3.29%
4	Sprinkler	4	0.41%
5	More than one type	16	1.65%
O	Other	1	0.10%
U	Undetermined	75	7.72%
Blank	no entry recorded	441	45.37%
	TOTAL	**972**	**100.00%**

STR_DetectPower	Code Definition	Record Count	Percent of Incidents
1	battery only	183	18.83%
2	hardwire only	84	8.64%
3	plug in	1	0.10%
4	hardwire w/battery	126	12.96%
5	plug in w/battery	2	0.21%
6	mechanical	3	0.31%
7	multiple detect, power supply	25	2.57%
O	Other	3	0.31%
U	Undetermined	104	10.70%
Blank	no entry recorded	441	45.37%
	TOTAL	**972**	**100.00%**

STR_DetectOper	Code Definition	Record Count	Percent of Incidents
1	Fire too small to activate	64	6.58%
2	Operated	276	28.40%
3	Failed	65	6.69%
U	Undetermined	126	12.96%
Blank	no entry recorded	441	45.37%
	TOTAL	**972**	**100.00%**

STR_DetectEffect	Code Definition	Record Count	Percent of Incidents
1	alerted, occupant responded	203	20.88%
2	alerted, no response	10	1.03%
3	no occupant	37	3.81%
4	failed to alert	9	0.93%
U	undetermined	17	1.75%
Blank	no entry recorded	696	71.60%
	TOTAL	**972**	**100.00%**

STR_DetectFailure	Code Definition	Record Count	Percent of Incidents
1	Power failure, disconnect	4	0.41%
2	improper install, placement	4	0.41%
3	defective	2	0.21%
4	lack of maint., cleaning	5	0.51%
5	battery missing, disconn.	27	2.78%
6	battery discharged, dead	7	0.72%
O	Other	1	0.10%
U	Undetermined	15	1.54%
Blank	no entry recorded	907	93.31%
	TOTAL	**972**	**100.00%**

Attachment 11 – Juvenile Fire Safety Executive Order

OFFICE OF
THE GOVERNOR

NO. 14 FY 08/09
DATE June 17, 2008

AN ORDER ESTABLISHING THE MAINE JUVENILE FIRE SAFETY COLLABORATIVE

WHEREAS, the occurrence of juvenile set fires is both pervasive and incredibly destructive; and

WHEREAS, each year fires set by juveniles, attributed to varied motivations, account for a large percentage of fire-related injuries, property damage and even deaths; and

WHEREAS, from 2000 to present in Maine, there were 1,803 juvenile set fires that accounted for 11 deaths and 91 injuries to civilians and fire service personnel, as well as $32,538,672 in property damage; and

WHEREAS, a formal risk assessment conducted by the State Fire Marshal's Office revealed that Maine has a juvenile fire safety problem; and

WHEREAS, literature on juvenile fire setting opines that fire setting behaviors associated with non-curiosity motivation can lead to other anti-social, negative behaviors; and

WHEREAS, Maine fire departments respond to several hundred incidents each year in which juveniles were involved with the ignition of a fire; and

WHEREAS, the risk to both civilian lives, the lives of fire service personnel and communities in Maine is a risk that can be mitigated through a reduction in juvenile set fires:

NOW, THEREFORE, I, John E. Baldacci, Governor of the State of Maine, do hereby create the Maine Juvenile Fire Safety Collaborative (hereinafter referred to as the JFS Collaborative) as follows:

Purpose

The Maine JFS Collaborative is established for the purpose of preventing injuries, the loss of life, and the loss of property from juvenile-set fires.

Membership

The JFS Collaborative shall be comprised of representatives from the following departments, agencies, and providers:

- The Commissioner of the Department of Public Safety or designee
- The Commissioner of the Department of Health and Human Services or designee
- The Commissioner of the Department of Corrections or designee
- The Commissioner of the Department of Education or designee
- The State Fire Marshal or designee
- A representative from Maine Fire Training and Education
- A representative from the Southern Maine Community College Fire Science Division
- A representative from fire services
- A representative from the mental health services community
- A representative from law enforcement
- A representative from the Pine Tree Burn Foundation

The Chief Justice of the Maine Supreme Judicial Court is invited to designate a representative of the Judicial Branch to serve on the JFS Collaborative. In addition, the President of the Senate and the Speaker of the House are invited to designate a representative from each chamber to serve.

The Commissioner of the Department of Public Safety or designee shall chair the JFS Collaborative.

The participation and involvement of all disciplines involved in the assessment, intervention and/or treatment of at-risk juveniles with fire setting behavior is encouraged to further the establishment of a statewide safety program.

The JFS Collaborative shall meet at times and places called by the Chair. Technical assistance will be provided to the Collaborative by staff of the Department of Public Safety and other entities, as they are willing and able to assist.

Objectives

The JFS Collaborative will focus on the prevention of injuries, the loss of life and the loss of property. This will be accomplished by:

- Developing and institutionalizing effective juvenile fire safety programs statewide by educating the public regarding the dangers of children and fire;
- Increasing the percentage of departments reporting juvenile related incidents to the Maine Fire Incident Reporting System and the National Fire Incident Reporting System;
- Strengthening existing juvenile fire safety collaboratives;
- Creating new collaboratives in areas of Maine where they do not exist;
- Developing and supporting effective intervention programs; and

- Institutionalizing and sustaining responsive services statewide.

Costs

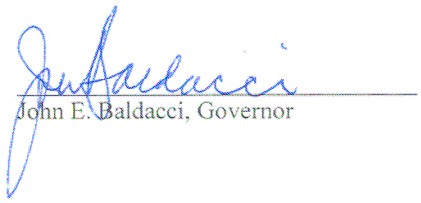
Members shall serve without compensation. Costs associated with the administrative needs of the Collaborative shall be borne by the Department of Public Safety and/or by any grant funds awarded to participating entities specifically to accomplish the objectives of the JFS Collaborative.

Annual Report

The JFS Collaborative shall submit a report annually to the Governor and the Children's Cabinet by April 1 of each year.

Effective Date

The effective date of this Executive Order is June 17, 2008.



John E. Baldacci, Governor