

MINNESOTA DEPARTMENT OF PUBLIC SAFETY



Office of the Commissioner

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October 1, 1999

The Honorable Jesse Ventura
Governor of the State of Minnesota
And Members of the Legislature
State Capitol Building
Saint Paul, Minnesota 55155

Dear Governor Ventura:

The Department of Public Safety, State Fire Marshal Division is proud to present *Fire in Minnesota – 1998* for your review. This publication represents the fire marshal's tenth year of providing statistical information to fire service and law enforcement agencies.

Minnesota participates in the National Fire Service Reporting System (NFIRS), sponsored by the U.S. Fire Administration, and adapts their forms to create our Minnesota Fire Incident Reporting System (MFIRS). This program, currently in the process of being converted to a computerized system, collects fire statistics on a statewide basis. 672 Minnesota Fire Departments reported to the MFIRS system in 1998; this represents 85% of all fire departments in the state.

The purpose of this report is to provide the fire service, law enforcement, public officials and the general public, with information and statistics about fire losses and the crime of arson throughout Minnesota.

The ten-year success of this report is made possible through the dedicated efforts of the fire departments that participate in MFIRS during the year.

Sincerely,

A handwritten signature in black ink that reads "Charlie Weaver". The signature is fluid and cursive, with a long horizontal stroke at the end.

Charlie Weaver
Commissioner

Alcohol &
Gambling
Enforcement

Bureau of
Criminal
Apprehension

Capitol Security

Driver & Vehicle
Services

Emergency
Management/
Emergency
Response
Commission

State Fire
Marshal/
Pipeline Safety

State Patrol

Traffic Safety

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From the desk of State Fire Marshal Thomas R. Brace

“Fire in Minnesota 1998” represents our tenth year of analyzing Minnesota fire statistics. The Minnesota Fire Incident Reporting System (MFIRS) participation by 672 reporting fire departments makes this report possible. This office deeply appreciates the continuing effort participating departments make; their commitment is critical to our data and collection program.

By analyzing Minnesota’s 1998 fire statistics, this report reveals patterns and highlights problems and concerns of the state fire service and the citizens of Minnesota. The following is a brief summary.



- Minnesota fire service responds to a call for help every three minutes, one fire is reported every 30 minutes, which accounts for a daily dollar loss of \$372,845.
- Fifty-two Minnesotans and one firefighter lost their lives to fire in 1998. 62%, or 32 deaths occurred in residential occupancies; 14 people perished in vehicle fires. Two deaths occurred in arson fires.
- There were 289 civilians injured in fires. Citizens between 20-39 years of age were the most frequently injured age group; male injuries surpass female injuries by a rate of nearly 2 to 1.
- Arson has become the leading cause of structure fires in 1998; more than 2,516 arson fires occurred during the year. One arson fire is reported every 3.5 hours, which results in a yearly dollar loss in excess of twelve million dollars.

The State Fire Marshal Division of the Department of Public Safety is committed to continuing our work to protect the citizens of Minnesota and support the Minnesota fire service. Public fire education programs, strict enforcement of fire codes, increased installation of fire sprinkler systems and the full prosecution of those who intentionally set fires will continue to have a significant impact on the fire problem in Minnesota.

I would like to acknowledge the Fire Data Unit, within the State Fire Marshal Division, who collect, enter and analyze MFIRS information to publish this report. Special thanks to Robert Dahm, Bureau Chief; Connie Weaver, Office Manager; Nora Gierok, Irene Moore, and Ernie Scheidness for their continued team effort.

I hope you will find Fire in Minnesota 1998 to be a valuable reference tool.



3,564

RESIDENTIAL

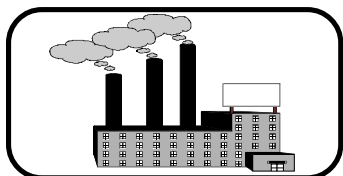
(Single family dwellings, apartments, mobile homes, hotels, motels)



577

PUBLIC AND MERCANTILE

(Stores, restaurants, institutions, churches, public facilities, education)



1,444

INDUSTRIAL, MANUFACTURING, OTHER BUILDINGS

*(Basic industry, manufacturing, storage, residential garages,
vacant buildings, unknown)*



4,460

MOBILE PROPERTY

(Automobiles, trucks, trains, buses, boats)



7,764

OUTSIDE AND OTHER

(Dumpsters, trash, wildland, grass, trees)

17,809

TOTAL FIRES

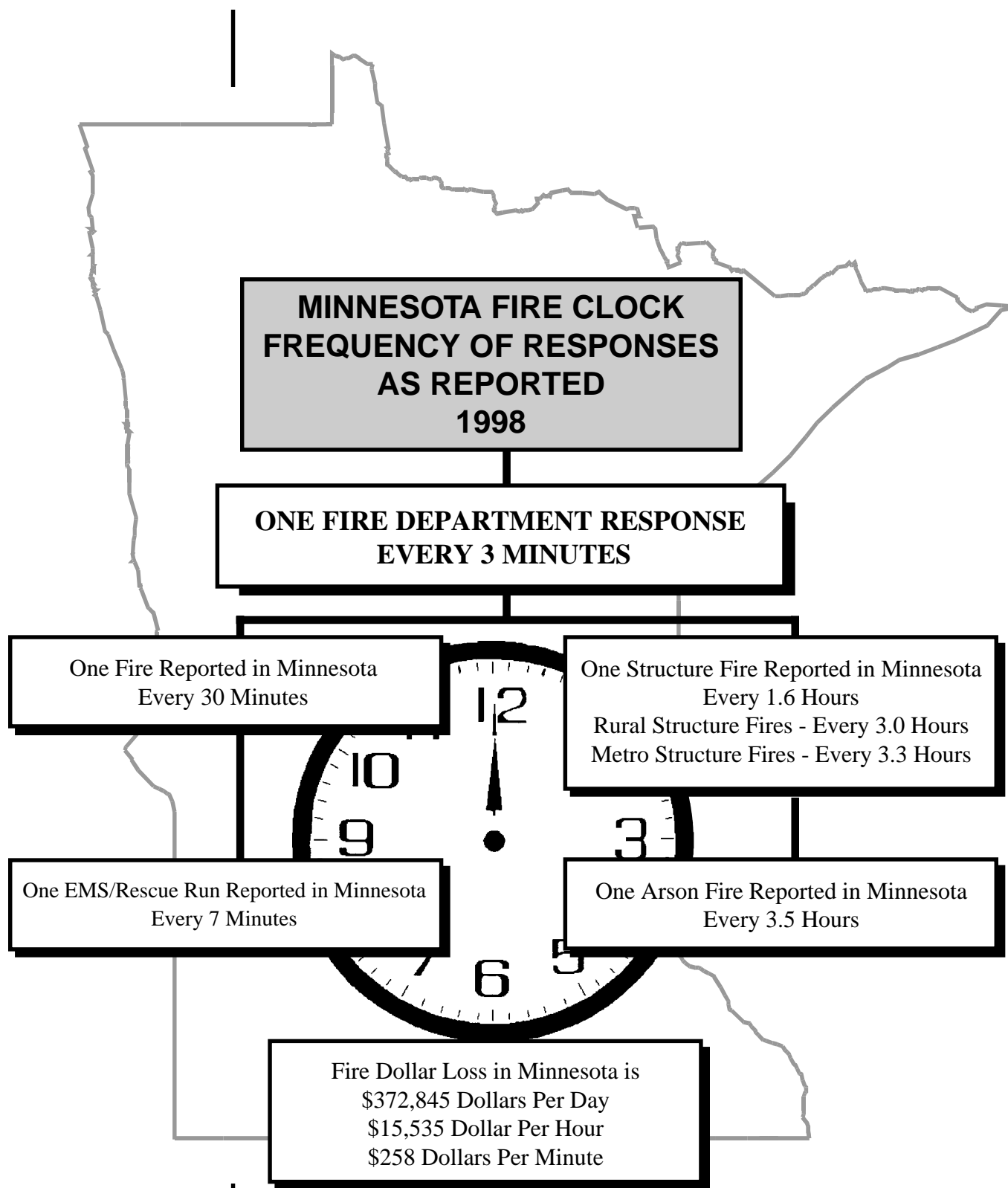
\$136,088,441

TOTAL DOLLAR LOSS

TOTAL IMPACT



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These figures represent the collective incidents reported by 672 of Minnesota's 793 fire departments.

Eighty-five percent of the state's fire departments reported into the MFIRS program.

OVERALL STATE TOTALS

In 1998, 672 fire departments (85%) reported into the Minnesota Fire Incident Reporting System (MFIRS) which provides information on fire incidents and related activities. This year's figures represent a decrease in the participation in MFIRS over last year (when 695 departments reported through MFIRS). (See the section titled "Participation," for a breakdown of reporting and non-reporting departments.)

1998 REPORTED FIRE DEPARTMENT RESPONSES					
Incidents Reported	7 County Metro Area	% State Total	Balance of State	% State Total	State Total
Structure Fires	2,642	47%	2,943	53%	5,585
Vehicle Fires	2,422	54%	2,038	46%	4,460
Other Fires	<u>4,341</u>	<u>56%</u>	<u>3,423</u>	<u>44%</u>	<u>7,764</u>
TOTAL FIRES	9,405	53%	8,404	47%	17,809
Rescue / EMS	51,879	73%	18,875	27%	70,754
Other Emergencies	<u>3,893</u>	<u>59%</u>	<u>2,670</u>	<u>41%</u>	<u>6,563</u>
TOTAL RESCUE	55,772	72%	21,545	28%	77,317
FALSE CALLS	17,690	77%	5,195	23%	22,885
MUTUAL AID GIVEN	1,028	39%	1,589	61%	2,617
OTHER INCIDENTS	<u>22,406</u>	<u>71%</u>	<u>9,054</u>	<u>29%</u>	<u>31,460</u>
TOTAL CALLS	106,301	70%	45,787	30%	152,088
Estimated Direct Dollar Loss Due to Fire	\$53,679,093	39%	\$82,409,348	61%	\$136,088,441

The total number of fire incidents reported by participating Minnesota fire departments in 1998 was 17,809, representing an 8% decrease from 1997. The number of all responses by the fire service increased 4% in 1998, for a total of 152,088.

Total number of incidents increased by over 5,000 runs in 1998.

With minor year-to-year fluctuation in fire incident reporting, structure fires are at a five-year low. Total number of incidents increased by over 5,000 runs in 1998.

FIVE-YEAR OVERALL INCIDENT COMPARISONS 1994-1998

	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>97/98 Change + (-)</u>	<u>97/98 % Change + (-)</u>
FIRES							
Structure	7,223	6,942	6,739	6,372	5,585	(787)	(12%)
Vehicle	5,477	5,158	5,448	4,832	4,460	(372)	(8%)
Other Fires	<u>8,612</u>	<u>7,698</u>	<u>8,184</u>	<u>8,141</u>	<u>7,764</u>	<u>(377)</u>	<u>(5%)</u>
TOTAL FIRES	21,312	19,798	20,371	19,345	17,809	(1,536)	(8%)
OVERPRESSURE RUPTURES	520	627	557	555	535	(20)	(4%)
RESCUE CALLS							
Emergency	52,193	58,079	59,706	65,501	70,754	5,253	8%
All Others	<u>5,762</u>	<u>6,076</u>	<u>5,635</u>	<u>5,837</u>	<u>6,563</u>	<u>726</u>	<u>12%</u>
TOTAL RESCUE CALLS	57,955	64,155	65,341	71,338	77,317	5,979	8%
HAZARDOUS CONDITION CALLS	6,448	7,132	9,954	9,578	10,177	599	6%
SERVICE CALLS	5,265	6,847	8,447	7,645	7,486	(159)	(2%)
GOOD INTENT CALLS	9,451	10,537	12,852	12,915	12,509	(406)	(3%)
FALSE CALLS							
Malicious	1,445	1,456	1,418	1,441	1,346	(95)	(7%)
Other False	<u>16,782</u>	<u>18,872</u>	<u>18,927</u>	<u>20,713</u>	<u>21,539</u>	<u>826</u>	<u>4%</u>
TOTAL FALSE CALLS	18,227	20,328	20,345	22,154	22,885	731	3%
MUTUAL AID GIVEN	2,557	2,494	2,655	2,488	2,617	129	5%
ALL OTHER	673	865	976	713	753	40	6%
TOTAL CALLS	122,408	132,783	141,498	146,731	152,088	5,357	4%
TOTAL DOLLAR LOSS	\$153.1M*	\$131.6M**	\$144.0M	\$141.5M	\$136.1	(\$5.4M)	(4%)

*Includes one \$12 million and two \$4 million dollar fires.

**Includes one \$15 million dollar fire.

Overall dollar loss decreased by \$5.4 million.

Overall dollar loss decreased by \$5.4 million (4%), which may be explained by the corresponding decrease in actual fire incidents.

For each of the past five years, residential structure fires have occurred at the rate of one for every 1,000 Minnesotans or one for every 366 households.

STRUCTURE FIRES BY PROPERTY TYPE

Fires in structures continue to occur most frequently in residential property, a category that includes houses, apartments, boarding houses, dorms, hotels/motels, etc. Again in 1998, residential structure fires decreased in number from the previous four years. On average, 4,215 fires have occurred in residential structures each of the past five years. This is approximately one structure fire for every 1,000 Minnesota residents annually or one fire for every 366 households in the state.

Structure Fires by Property Type 1994 - 1998						
	1994	1995	1996	1997	1998	% increase (decrease) 1997-1998
Residential	4,741	4,521	4,229	4,021	3,564	(11%)
Educational/ Institutional	234	240	152	213	158	(26%)
Public Assembly/ Commercial	512	475	527	435	419	(4%)
Industrial/ Manufacturing	380	449	395	338	271	(20%)
Storage	1,053	1,009	1,155	1,124	954	(15%)
Special/Other	215	203	220	218	185	(15%)
Unclassified	88	45	61	23	34	48%
TOTAL	7,223	6,942	6,739	6,372	5,585	(12%)

The number of reported structure fires decreased for all property types except unclassified.

In 1998, the total number of structure fires decreased by 12%. While this might seem a modest improvement, it is, in fact, a banner year -- the first time in the ten-year history of "Fire in Minnesota" when fewer than 6,000 structure fires have been recorded!

Residential structure fires are at a 10-year-low, as are Industrial/Manufacturing fires.

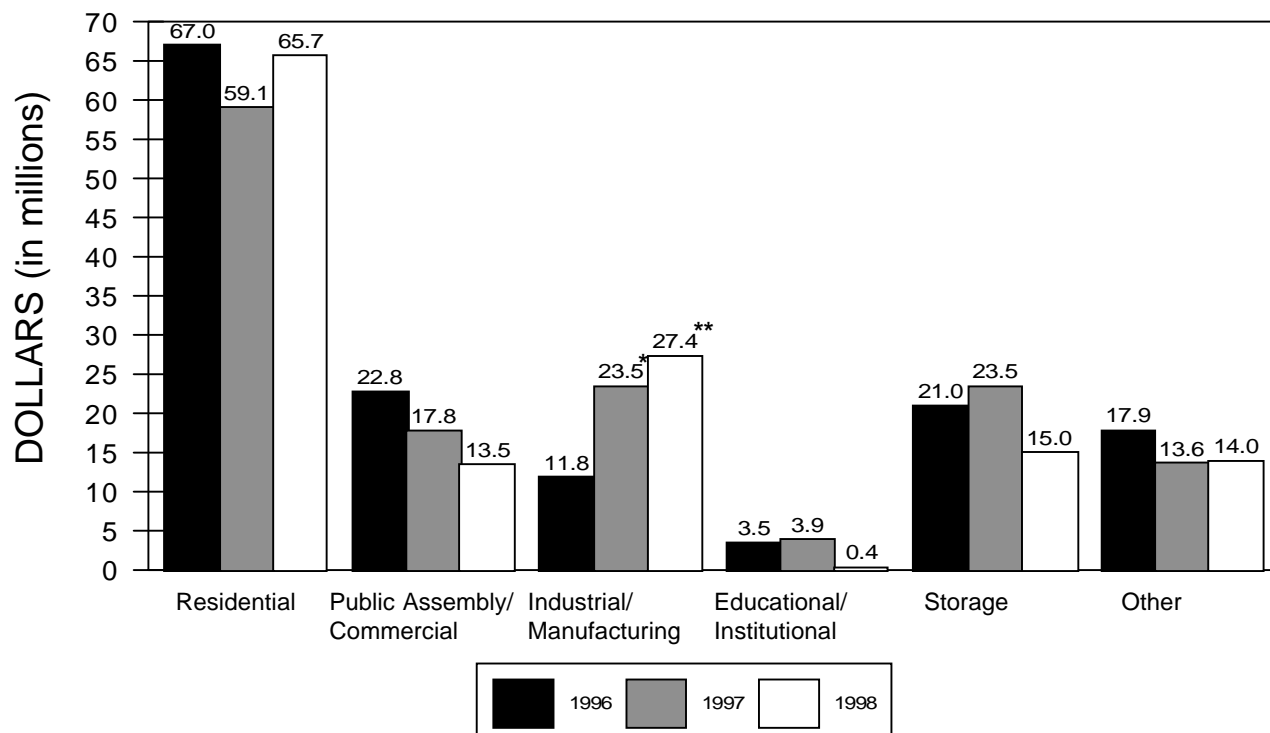
Educational Institutional structure fire numbers have been reduced to 158; this 26% decrease nearly approaches the 1996 low of 152.

These encouraging numbers reflect a decade of cooperative efforts in service, technology, and education by the agencies in the fire community.

Overall, average dollar loss per structure fire was over \$21,000 per incident.

OVERALL STATEWIDE DOLLAR LOSS

DOLLAR LOSS BY PROPERTY TYPE



*Includes \$7 million plastic manufacturing plant fire and \$5.5 million canning plant fire.

**Includes \$10 million ore mine fire and \$5.8 meat processing plant fire.

Residential fires accounted for 48% of total dollar loss and represent 64% of all structure fires in 1998.

The 1998 dollar loss in residential property increased by \$6.6 million from 1997. Residential fires accounted for 64% of all structure fires and 48% of total dollar loss, whereas in 1997 residential fires accounted for 63% and 42% in total dollar loss.

There was an increase in dollar loss in industrial/manufacturing facilities of \$3.9 million in 1998, which included an ore mine fire that caused \$10 million in damages and a meat processing plant that had a dollar loss of \$5.8 million.

Overall, average dollar loss per structure fire in 1998 was over \$21,000 per incident. Average dollar loss per residential fire was over \$18,000 per incident.

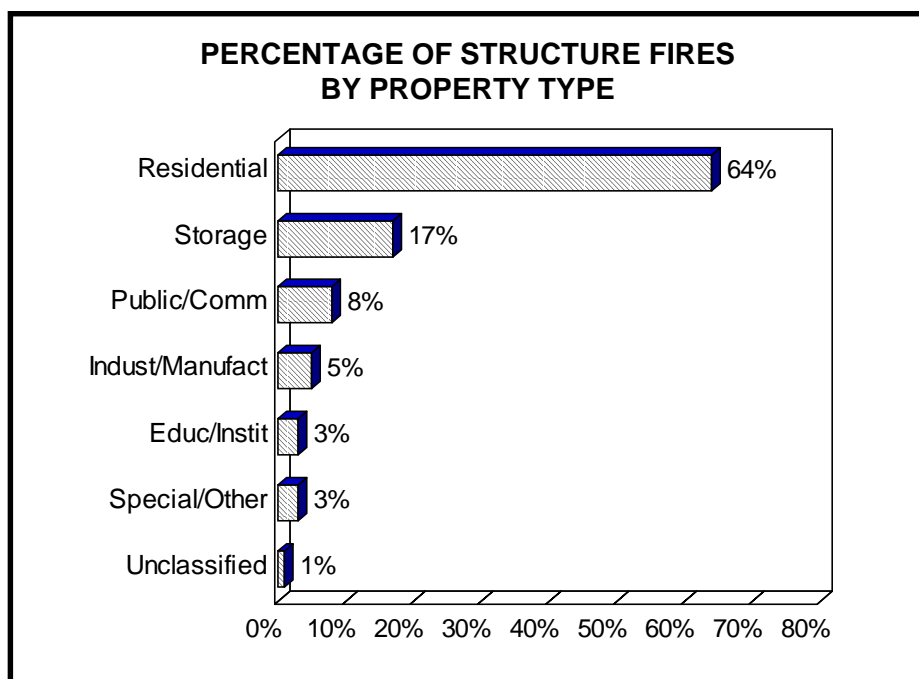
*In the past 10 years
residential dollar loss
amounted to over
\$609 million dollars.*

SUMMARY

Although the number of Minnesota fire departments reporting decreased slightly, the number of incidents reported increased by 4%. Dollar loss was in excess of \$136 million, a \$5.4 million decrease from 1997.

Fires occurred most frequently in residential-type properties. The residential fires occurred in significantly higher percentages than the next most reported property type: storage facilities.

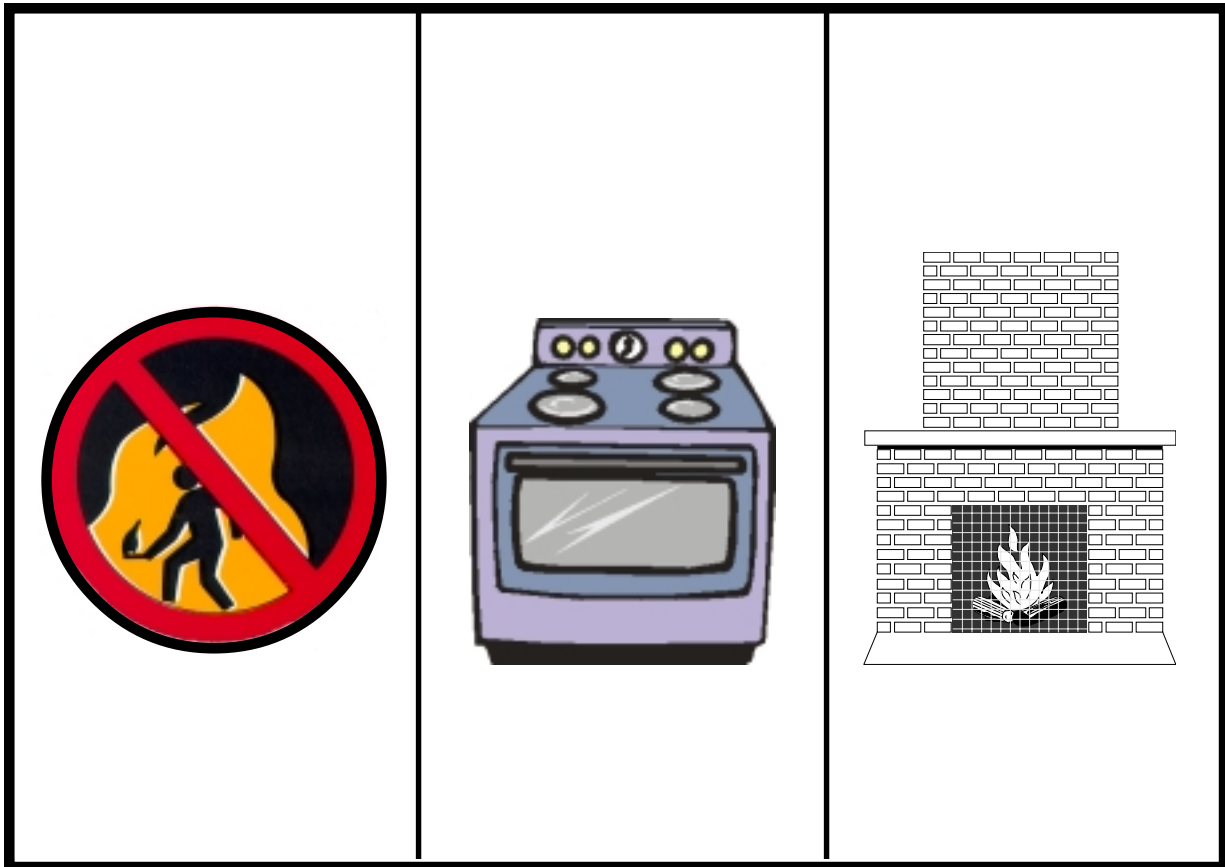
Residential fires accounted for 64% of all structure fires, 48% of total dollar loss, and 62% of all fire deaths. This continues to make the home the most dangerous place to be in regard to fire.



In the last 10 years, nearly \$1.4 billion in property was destroyed by fire; of that amount, 44%, or over \$609 million, occurred in residential property.

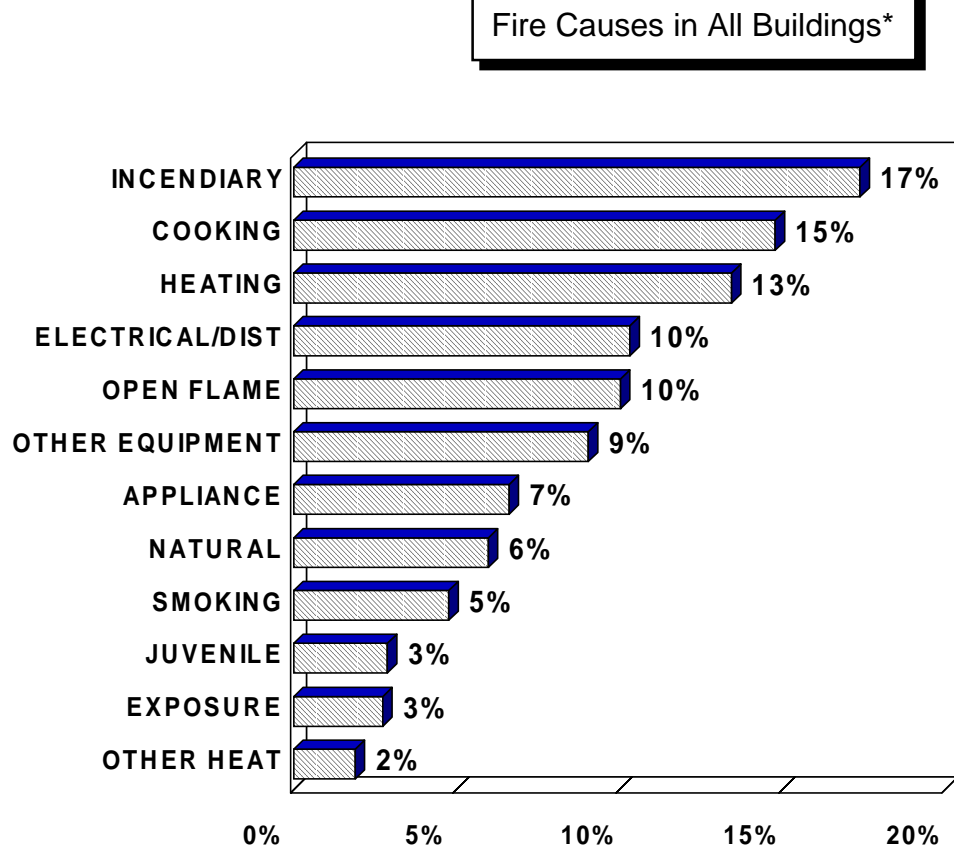
Statewide, dollar loss from fires remains high and continues to be a costly problem. Commitment to prevent fires before they occur is the only way to stop the significant loss of life and property from fire. This requires all citizens to actively participate in public education and fire prevention efforts.

CAUSES



CAUSES

For the 1st time in 10 years, incendiary emerges as the leading cause of all structure fires with known causes. Cooking and heating follow as 2nd and 3rd.



**Based solely on reports from fire departments where known fire causes were identified.*

Incendiary was a cause in 10% of residential fires. The dollar loss in all residential fires totaled over \$65 million.

When fire causes in all types of buildings are compared, heating, incendiary, and cooking emerge as the "top three." However, in 1998, the order changed; for the first time in this decade, incendiary is the leading cause of structure fires. In residential structures, as a group, cooking is still the most common cause. Fires in residential property represent 64% of all structure fires, and 48% of total dollar loss.

While fires in educational/institutional properties represent only 3% of structure fires, forty-three percent (43%) of these had incendiary causes. In store/office property, (4% of structure fires), incendiarism was reported as the cause in 19% of the fires.

The large number of "other" and "unknown" causes represent a recurrent frustration; MFIRS data must, in every reported fire incident, reflect the best judgment of the fire service as to cause and dollar loss. Only with this information can statewide data be complete and valid.

A Closer Look at Major Fire Causes . . .

In 1998, cooking-related fires accounted for 15% of all civilian fire injuries.

. . . Cooking Fires

Unattended cooking accounted for 33% of cooking-related fires and 21% of the dollar loss. Three cooking-related fire deaths occurred in 1998 as well as 44 civilian and 5 firefighter injuries. This represents a decrease of 14% in civilian injuries; firefighter injuries decreased 38% from last year. Dollar loss totalled over \$3 million, a 22% decrease over 1997.

MOST COMMON CAUSES AND DOLLAR LOSS FOR ALL COOKING FIRES

<u>Cause</u>	<u># of Fire Incidents</u>	<u>% of Total</u>	<u>Dollar Loss</u>	<u>% of Total</u>	<u>Civ. Deaths</u>	<u>Civ. Injuries</u>	<u>Firefighter Injuries</u>
Unattend./Fell Asleep	269	33%	\$ 682,202	21%	2	19	2
Mechanical Failure	147	18%	583,066	18%	--	2	--
Operational Deficiency	80	10%	289,376	9%	--	6	1
Combustibles Too Close	76	9%	289,909	9%	1	4	--
Abandon. Material (Charcoal)	17	2%	271,231	8%	--	--	1
Other Causes	160	19%	895,664	28%	--	13	1
Undetermined	77	9%	221,723	7%	--	--	--
Total	826	100%	\$3,233,171	100%	3	44	5

Two people perished in heating-related fires.

. . . Heating Fires

The majority of heating-related fires (492) occurred in residential properties. These fires have dropped dramatically from last year -- 671 fires in 1997. This is a 27% decrease! Although total residential heating fire dollar loss decreased 10%, dollar loss from portable heater fires increased 40%.

DOLLAR LOSS FROM HEATING FIRES IN RESIDENTIAL PROPERTIES ONLY

<u>Equipment</u>	<u># of Fire Incidents</u>	<u>% of Total</u>	<u>Dollar Loss</u>	<u>% of Total</u>	<u>Civ. Deaths</u>	<u>Civ. Injuries</u>	<u>Firefighter Injuries</u>
Fireplace/Chimney	264	54%	\$2,486,258	37%	--	2	2
Portable Heaters	32	7%	1,334,500	20%	--	--	--
Fixed Heating Units	81	16%	935,300	14%	2	3	6
Water Heaters	39	8%	807,379	12%	--	1	--
Central Heating Units	46	9%	622,100	9%	--	2	1
Other	30	6%	507,501	8%	--	1	1
Total	492	100%	\$6,693,038	100%	2	9	10

AGRICULTURAL PROPERTIES

Total dollar loss in agricultural properties exceeded \$10 million.

Agricultural properties are defined as those structures or open pieces of land on which the production of raw agricultural products and farming occurs. Agricultural production and storage properties do not include processing facilities.

AGRICULTURE PRODUCTION

<u>Type of Facility</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	
	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>Dollar Loss</u>
Hog	24	14	24	\$ 943,000
Poultry, Egg	9	20	10	907,000
Crop/Orchards	107	72	51	505,000
Cattle	45	27	22	134,001
Other Livestock	13	6	7	23,000
Unclassified Agric.	175	126	61	251,895
TOTAL	373	265	175	\$2,763,896

AGRICULTURE STORAGE

<u>Type of Facility</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	
	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>Dollar Loss</u>
Barns	216	207	198	\$4,461,629
Grain Elevators	28	25	17	1,571,250
Ag. Supply Storage	38	42	48	751,300
Seed, Silage	89	63	66	233,650
Livestock	4	16	7	111,100
Boxed, Bagged Ag.	5	8	4	15,300
Unclassified Agric.	30	40	24	346,910
TOTAL	410	401	364	\$7,491,139

Dollar loss for grain elevators increased in 1998, but overall, agricultural property loss went down.

Dollar loss on grain elevators increased over \$1.3 million from 1997.

Overall the number of fire incidents and dollar loss in agricultural properties decreased in 1998.

AGRICULTURAL PROPERTY FIRE CAUSES...

Agricultural Production and Storage Facilities

<u>Ignition Factors</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>		
	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>No. of Incidents</u>	<u>Dollar Loss</u>	<u>% Total \$ Loss</u>
Mech. Failure/Malfunct.	202	133	120	\$ 3,652,973	36%
Lightning/Other Natural Conditions	24	20	33	1,187,150	12%
Spontaneous Heating	40	36	30	1,154,300	11%
Open Flame/Inadeq. Ctrl.	91	93	63	360,800	4%
Incendiary	31	30	20	301,400	3%
Misuse of Heat	31	23	23	295,500	3%
Combustibles Too Close to Heat/Exposure	66	55	33	252,000	2%
Children Playing w/Fire	13	12	14	121,310	1%
Unattended	10	9	7	102,000	1%
Lack of Maintenance	27	7	9	81,100	1%
Design, Construction, Installation Defic.	6	4	5	61,000	1%
Other	34	35	22	33,011	<1%
Fuel Spill	4	1	1	16,000	<1%
Operational/Design Defic.	16	19	12	12,650	<1%
Ignited Material Misuse	3	5	5	1,500	<1%
Undeter./Not Class. Above	185	184	142	2,622,341	26%
TOTAL	783	666	539	\$10,255,035	100%

Mechanical failure again was listed as the #1 known cause of fires in agricultural facilities.

Based on identified causes, mechanical failure or malfunction continues to be the leading cause of fire in agricultural facilities. Maintenance of agricultural equipment is the known major weakness and caused over \$3.6 million in property loss, or 36% of the total agricultural dollar loss for 1998. These amounts are more than doubled the 1997 dollar loss, in spite of a decrease in the number of incidents.

If we are to address the problem of fires in agricultural properties, every effort must be made to identify and report the causes of these fires.

Fire Cause and Areas of Origin by Occupancy Class

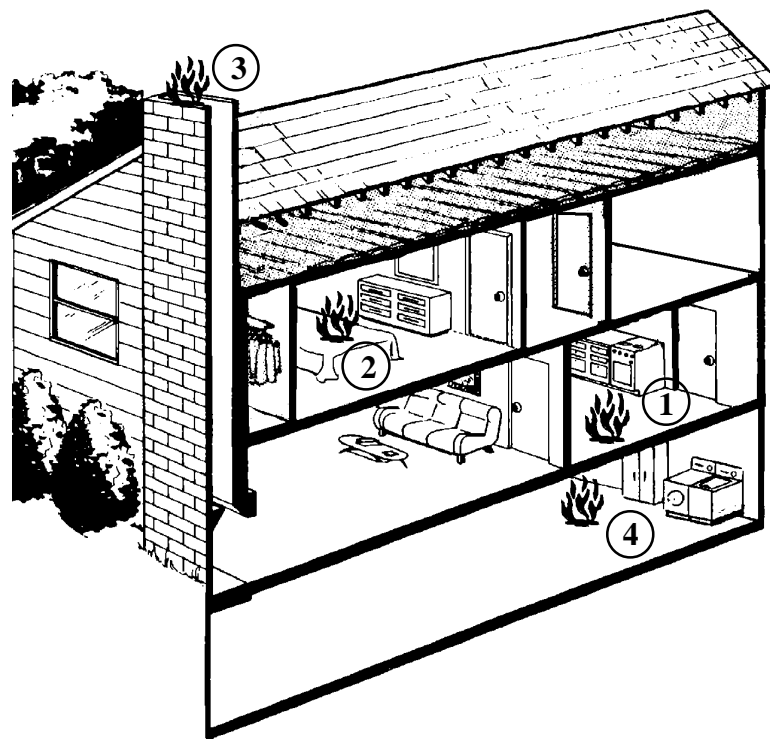
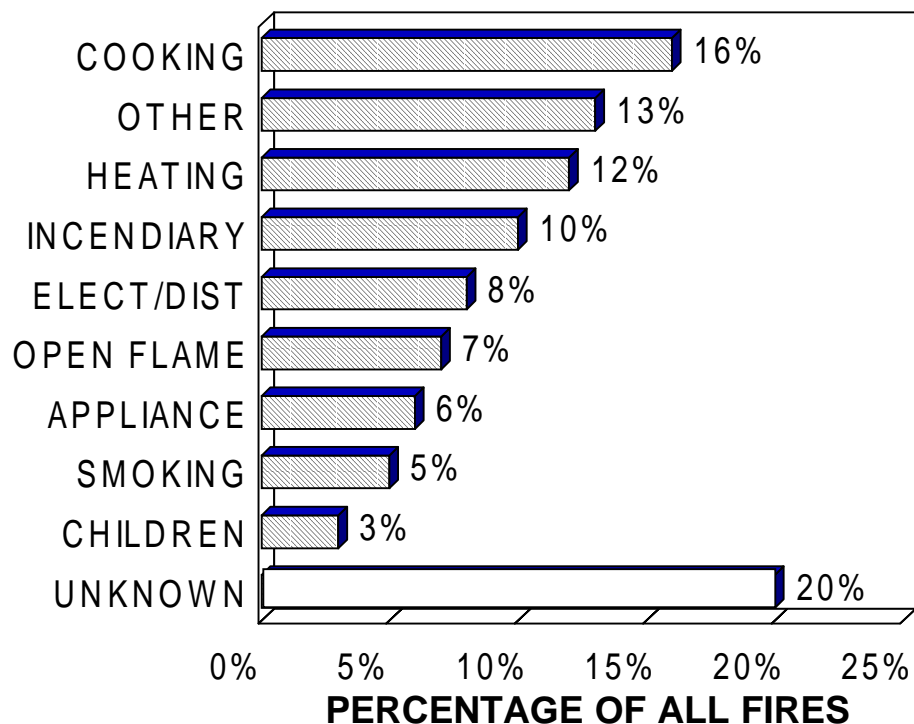
The following pages contain additional information about fire causes and most common areas of fire origin. For each of the four major property types (residential, educational, public assembly, and store/office), leading fire causes are presented. Separate data is included with an illustration of the property type, depicting, to the extent reported, which rooms in a given type of structure are most frequently found to be the origin of a fire. For example, in residential properties the kitchen has been identified as the most hazardous area, where fires may result from any number of causes (e.g., cooking, heating, electrical causes, incendiary, etc.).

Again, it must be noted that a lack of complete reporting of causes through MFIRS results in a large number of fires categorized as "unknown cause" or "unclassified/other."

RESIDENTIAL PROPERTY

(Single Family Dwellings, Apartments, Hotels)

LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	3,564	94	224	--	32	\$65,741,313
% of Total	64%*	46%	78%	--	62%	48%

*Percent of structure fires

AREA OF FIRE ORIGIN

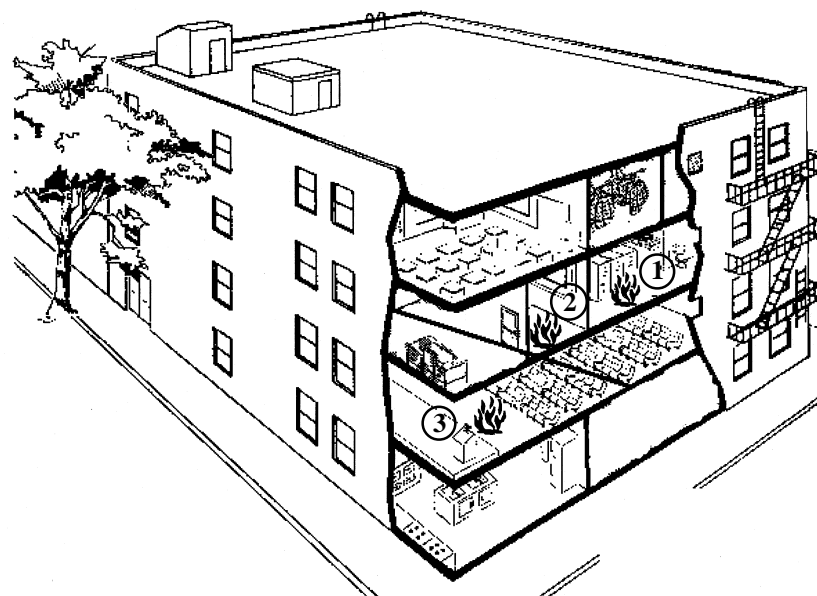
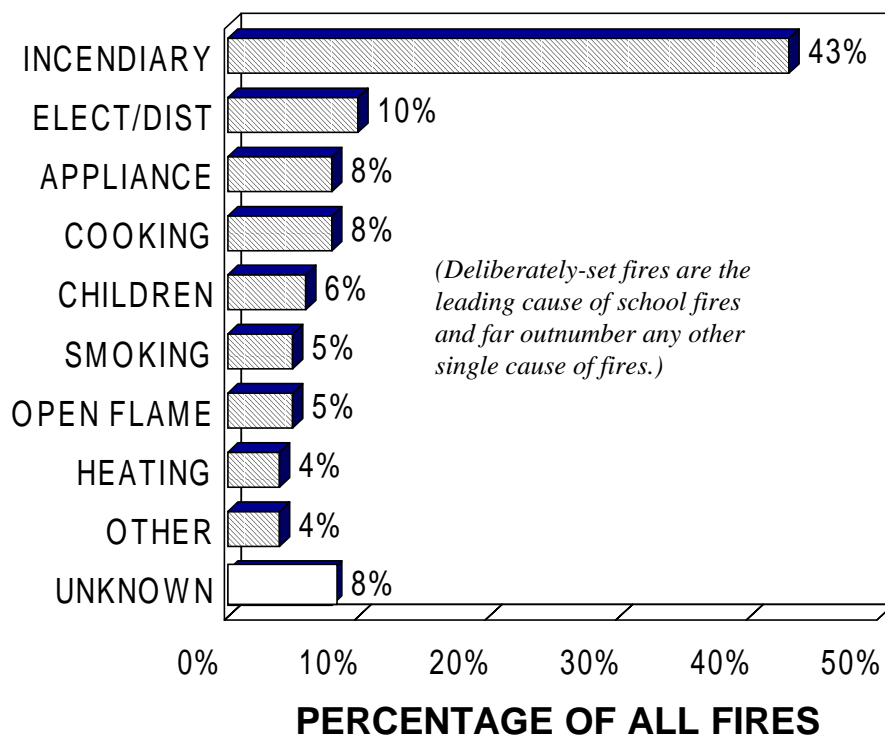
1. Kitchen/Cooking Area	19%
2. Sleeping Area	9%
3. Chimney	6%
4. Laundry Room.....	5%

Other Areas of Fire Origin: 61%

EDUCATIONAL PROPERTY

(Colleges, University, Public/Private Schools)

LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	84	1	1	--	--	\$193,767
% of Total	2%*	<1%	<1%	--	--	<1%

*Percent of structure fires

AREA OF FIRE ORIGIN

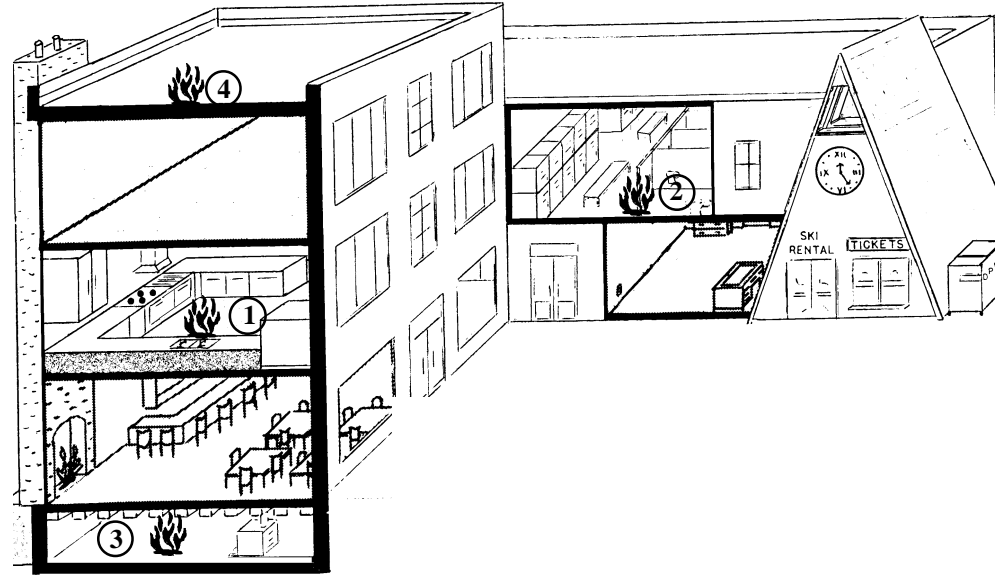
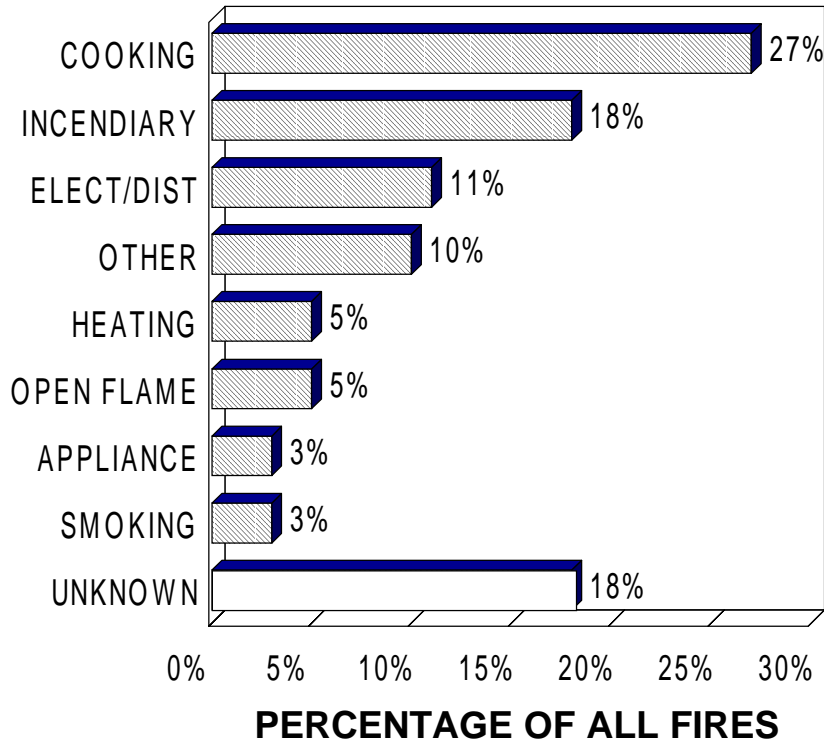
1. Lavatory/Locker Room	31%
2. Hallway/Corridor/Mall	7%
3. Small Assembly	8%

Other Areas of Fire Origin: 54%

PUBLIC ASSEMBLY PROPERTY

(Restaurants, Arenas, Churches, Theatres)

LEADING FIRE CAUSES



	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	182	2	2	--	--	\$5,419,085
% of Total	3%*	1%	1%	--	--	4%

*Percent of structure fires

AREA OF FIRE ORIGIN

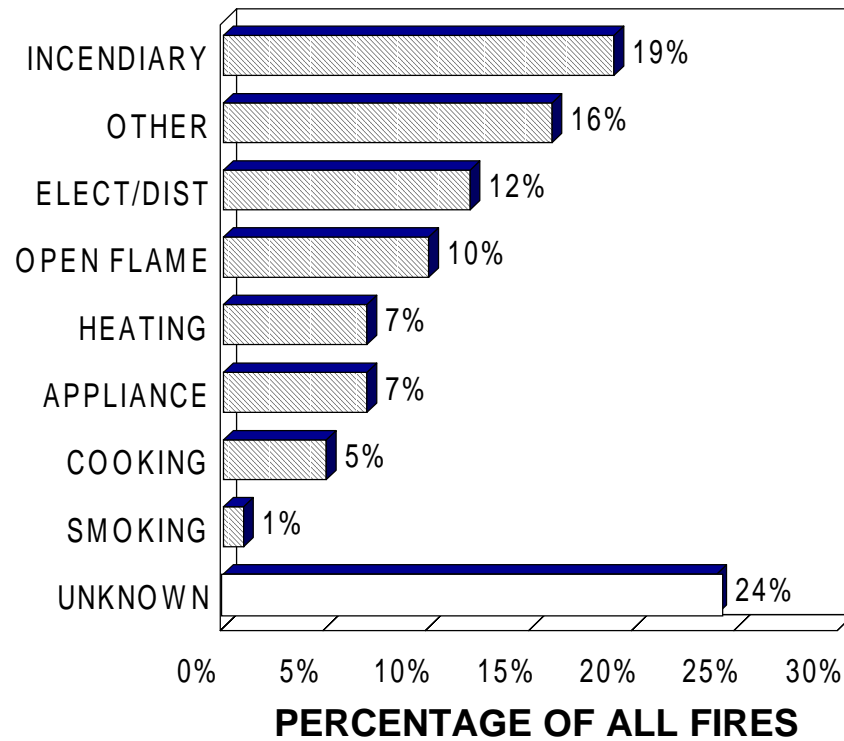
1. Kitchen/Cooking Area	32%
2. Supply/Storage Room/Area	6%
3. Lavatory/Locker Room	5%
4. Ceiling Roof Assembly	5%

Other Areas of Fire Origin: 52%

STORE AND OFFICE PROPERTY

(Retail Shopping, Business Offices, Gas Stations)

LEADING FIRE CAUSES



AREA OF FIRE ORIGIN

1. Maintenance/Shop Area	7%
2. Exterior Wall Surface	7%
3. Kitchen/Cooking Area	6%

Other Areas of Fire Origin: 80%*

*The high percentage of "Other" in this category may reflect the difficulty in naming the area of fire origin based on coding associated with the MFIRS report form.

	No. of Incidents	Firefighter Injuries	Civilian Injuries	Firefighter Deaths	Civilian Deaths	Dollar Loss
	237	13	13	--	4	\$8,126,512
% of Total	4%*	6%	4%	--	8%	6%

*Percent of structure fires

FIRE PREVENTION WEEK

Since 1925, the week containing Oct. 9, the anniversary of the Great Chicago fire of 1871, has been designated as Fire Prevention Week. The purpose of the week's events is to promote public awareness of the need for fire prevention. The National Fire Protection Association (NFPA) offers a variety of classroom activities and materials designed to educate and encourage families to make their homes fire-safe, and to respond appropriately should a fire occur. Each year's theme highlights a particular fire-safety behavior. This year we continue the theme from last year, "The Great Escape." We encourage fire service personnel to participate in Fire Prevention Week efforts in their own communities. Further information about this yearly event can be found on the NFPA web page at: www.nfpa.org.

Continued support of fire prevention and public education efforts is essential to reduce the tragic losses from fire in Minnesota.

SUMMARY

For the first time in our ten-year history, incendiary tops the list of causes for structure fires. Incendiary, cooking and heating causes resulted in 7 fire deaths and 117 injuries (both civilian and firefighter). A breakdown of fires by major property type gives additional insights into cause.

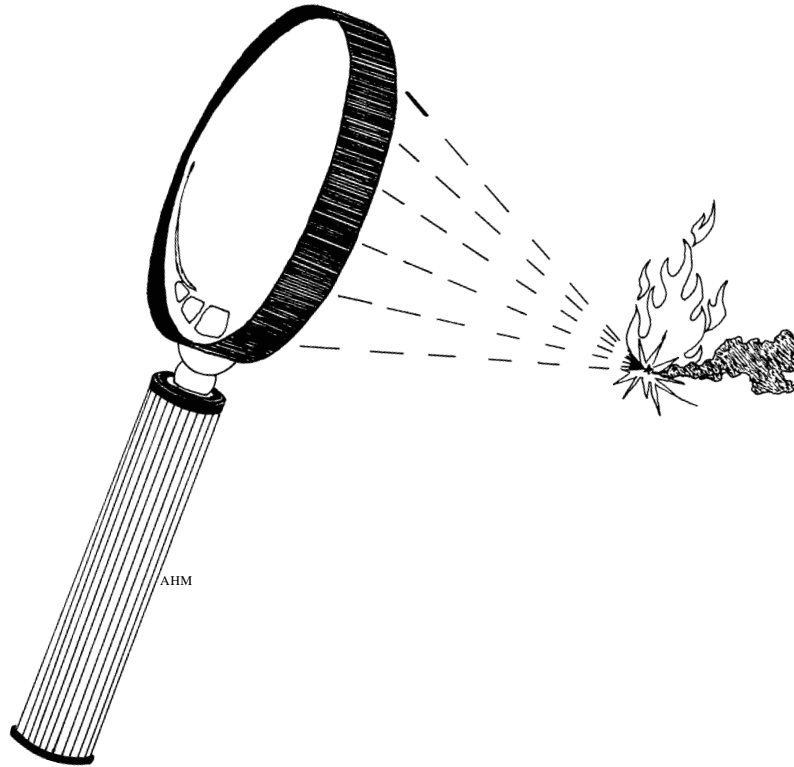
Two leading causes of fires in residential properties (which accounted for 64% of total structure fires) were identified as cooking and heating. Residential fires accounted for 62% of all fire deaths, 49% of firefighter injuries, and 78% of civilian injuries.

While careless smoking accounts for only 5% of overall fires, it represents 25% of all fire fatalities.

In 1998, as in previous years, MFIRS data reflected a large number of unknown/undetermined causes of fires (21%). In order to focus fire prevention efforts more accurately, complete reporting of causes (ignition factor field on the MFIRS form) is absolutely essential.

The most dangerous place to be, in regard to fire, continues to be the home. Fire prevention education efforts in the areas of cooking and heating must continue to be a top priority. Incendiary fires must be addressed through such efforts as the Arson Reward Program and the Juvenile Firesetter Intervention programs being set up throughout the state.

INCENDIARY TRENDS



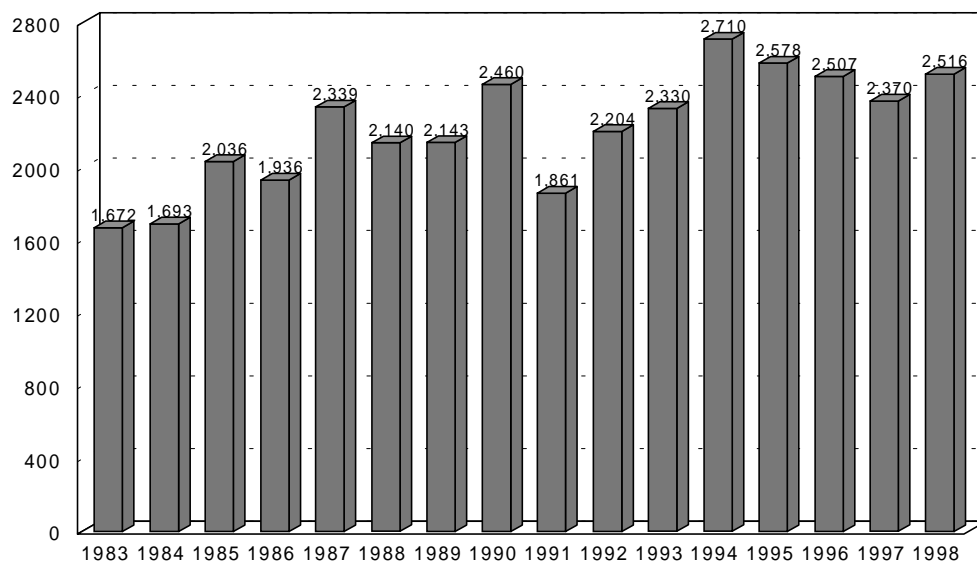
Reprinted With Permission of the Fairfax Standard/Photo by Steve Palmer

In 1998, although slightly increased, incendiary was reported as the leading cause of all structure fires with known causes.

INCENDIARY TRENDS*

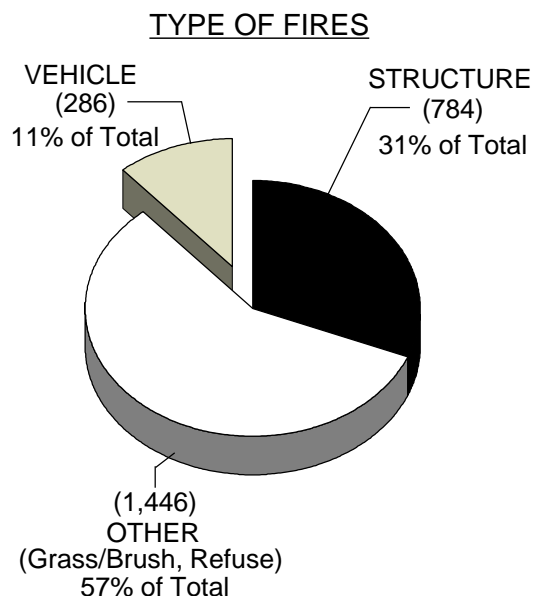
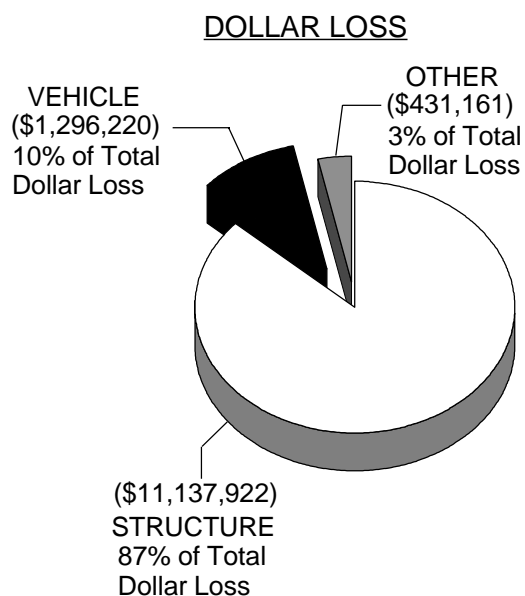
In 1998, incendiary fires increased slightly, but was reported as the leading cause of all structure fires with known causes. Additionally, 1,147 (21%) fires were reported as undetermined, and experts agree that many of these fires were probably incendiary in nature.

INCENDIARY FIRES IN MINNESOTA



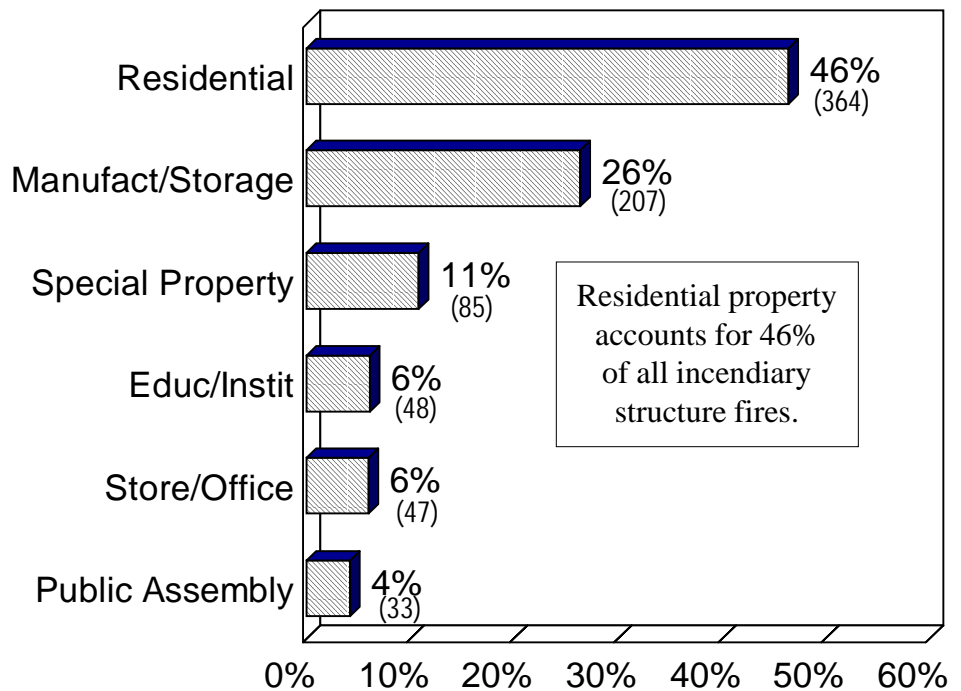
There were a total of 2,516 identified incendiary fires, a 6% increase from 1997. The value of property destroyed was estimated at almost \$13 million. The majority of the incendiary dollar loss (92%) occurred in structures. There were 2 reported fire deaths directly attributable to incendiary causes in 1998.

INCENDIARY FIRES BY DOLLAR LOSS AND TYPE



*Starting with the 1997 Fire in Minnesota, all incendiary charts and statistics are taken from MFIRS data only. For additional incendiary statistics, please see the Fire/Arson Investigation Team Section on pages 64-66.

Incendiary Fire Incidents By Structure Type

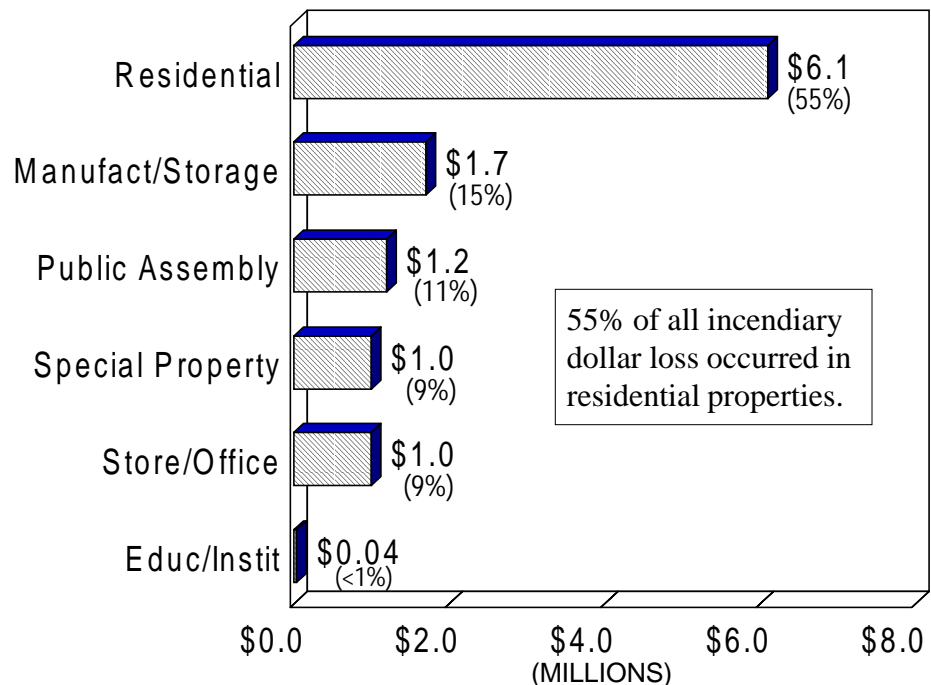


Incendiary Fire Dollar Loss (In Millions)

	Structure	Vehicle
1992	\$16.3	\$.5
1993	\$20.6	\$.8
1994	\$42.2	\$.8
1995	\$16.9	\$.9
1996	\$20.5	\$1.3
1997	\$13.8	\$.9
1998	\$11.1	\$1.3

Nearly half of incendiary fires in structures (46%) occurred in residential properties, a slight decrease from 1997. The dollar loss in those properties totalled \$6.1 million, or 55% of all incendiary dollar losses in structures.

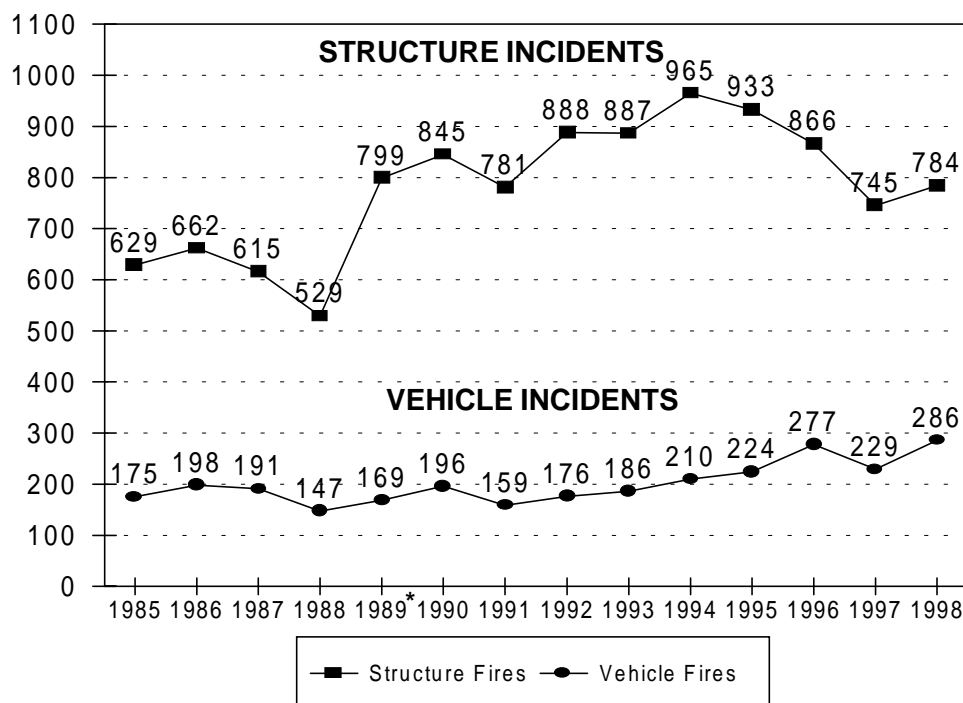
Incendiary Fire Dollar Loss By Structure Type



INCENDIARY TREND IN STRUCTURE AND VEHICLE FIRES, 1985-1998

Incendiary Structure Fires by Time of Day

0001-0400	210
0401-0800	84
0801-1200	60
1201-1600	103
1601-2000	151
2001-2400	170
Time - Blank	6
Total	784



*Two major cities began reporting in 1989. This had a significant impact on the number of arson structure fires reported.

In 1998, incendiary was listed as the cause of 17% of all reported structure fires with known causes and 6% of all reported vehicle fires in Minnesota. Vehicle incendiary dollar loss represented 9% of total vehicle fire dollar loss, with an average dollar loss per incendiary vehicle fire of \$4,532. Fire investigators agree that incendiary vehicle fires are under-reported and may not receive the attention that structure fires do.

RESIDENTIAL STRUCTURE INCENDIARY FIRES

Property Type	1997		1998		
	Incidents	Dollar Loss	Incidents	Dollar Loss	% of Total Dollar Loss
One-Two Family Dwelling	255	\$5.4M	241	\$4.9M	80%
Apartment/Tenement/Flat	98	\$1.9M	101	\$1.1M	18%
Other Residential Occupancy	7	\$.076M	8	\$.065M	1%
Hotel/Motel/Inn/Lodge	10	\$.024M	7	\$.025M	<1%
Rooming/Boarding/Lodging/Housing	1	<\$.001M	1	\$.025M	<1%
Dormitories	4	\$.002M	6	<\$.001M	<1%
TOTAL	375	\$7.4M	364	\$6.1M	100%

When we look at overall fires, we find residential structures are at greatest risk. These same structures are also at greatest risk from incendiary fires. The 364 residential incendiary incidents reported in 1998 accounted for 10% of all reported residential fires and 9% of the dollar loss for this property type.

INCENDIARY FIRE INCIDENTS AND DOLLAR LOSS BY COUNTY*

In some instances, the protection district of the reporting fire department goes beyond its county boundary, but the incident will still be recorded within the department's home county. Per capita data is calculated at a standard rate of incendiary fires per 100,000 people.

<u>County</u>	<u>Incendiary Incidents</u>	<u>Incend. Fires/ 100,000 Pop.</u>	<u>Incendiary Dollar Loss</u>	<u>County</u>	<u>Incendiary Incidents</u>	<u>Incend. Fires/ 100,000 Pop.</u>	<u>Incendiary Dollar Loss</u>
Aitkin	1	0	\$40,000	Marshall	8	73	\$28,500
Anoka	249	102	\$715,609	Martin	4	17	\$20,200
Becker	24	86	\$54,000	Meeker	3	14	\$1,500
Beltrami	20	58	\$145,000	Mille Lacs	5	27	\$121,000
Benton	1	3	\$9,000	Morrison	3	10	\$82,000
Big Stone	1	16	\$0	Mower	16	43	\$25,000
Blue Earth	47	87	\$213,210	Murray	2	21	\$12,000
Brown	0	0	\$0	Nicollet	10	36	\$32,100
Carlton	21	72	\$148,000	Nobles	3	15	\$15,000
Carver	12	25	\$21,800	Norman	3	38	\$1,000
Cass	41	188	\$10,500	Olmsted	34	32	\$225,825
Chippewa	2	15	\$1,100	Ottertail	11	22	\$50,250
Chisago	11	36	\$10,000	Pennington	1	8	\$0
Clay	28	56	\$33,390	Pine	8	38	\$24,500
Clearwater	6	72	\$10,000	Pipestone	0	0	\$0
Cook	0	0	\$0	Polk	25	77	\$110,951
Cottonwood	3	24	\$0	Pope	1	9	\$0
Crow Wing	26	59	\$43,256	Ramsey	384	79	\$2,265,794
Dakota	216	78	\$752,686	Red Lake	0	0	\$0
Dodge	2	13	\$0	Redwood	1	6	\$10,000
Douglas	4	14	\$8,500	Renville	6	34	\$70,000
Faribault	0	0	\$0	Rice	41	83	\$41,600
Fillmore	0	0	\$0	Rock	0	0	\$0
Freeborn	15	45	\$3,810	Roseau	1	7	\$0
Goodhue	21	52	\$136,250	St Louis	322	162	\$1,660,189
Grant	0	0	\$0	Scott	32	55	\$28,001
Hennepin	504	49	\$3,491,001	Sherburne	23	55	\$4,100
Houston	6	32	\$15,300	Sibley	0	0	\$0
Hubbard	4	27	\$31,800	Stearns	85	72	\$596,720
Isanti	2	8	\$20,000	Steele	9	29	\$127,055
Itasca	13	32	\$10,401	Stevens	0	0	\$0
Jackson	2	17	\$2,900	Swift	2	19	\$18,000
Kanabec	1	8	\$0	Todd	4	17	\$3,000
Kandiyohi	6	15	\$22,151	Traverse	0	0	\$0
Kittson	11	191	\$0	Wabasha	8	41	\$27,500
Koochiching	12	74	\$432,000	Wadena	3	23	\$0
Lac qui Parle	1	11	\$0	Waseca	1	6	\$0
Lake	7	67	\$43,700	Washington	69	47	\$446,611
Lake of the Woods	2	49	\$12,600	Watsonwan	0	0	\$0
Lesueur	2	9	\$40,300	Wilkin	2	27	\$0
Lincoln	1	15	\$5,000	Winona	17	36	\$31,621
Lyon	6	24	\$10,110	Wright	28	41	\$44,210
McLeod	5	16	\$103,202	Yellow Medicine	1	9	\$100,000
Mahnomen	4	79	\$44,500				
TOTAL				2,516	58	\$12,865,303	

* Based on data received from 672 departments. See pages 43-50 for MFIRS participation by county.

SUMMARY

While incendiary fires have long remained one of the top three causes of fire in Minnesota, in 1998 incendiary emerged as the leading cause of structure fires. On the positive side, although the number of incendiary fires is up from 1997, the amount of dollar loss from these fires is lower than in any year since 1990.

Forty-six percent of all incendiary structure fires were in residential property. These fires accounted for 55% of dollar loss from incendiary causes.

Forty-three percent (43%) of all structure fires in educational facilities were determined to be deliberately set. This continues to be the leading cause of fire in educational property.

In the past ten years, incendiary fires caused 28 deaths and over \$192 million in property loss. Arson prevention must continue to be a priority; incendiary fires kill, maim, and destroy at an alarming rate. It is a crime against every Minnesotan.

CASUALTIES



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Looking Back . . . Ten Years of "Fire In Minnesota"

In the ten year history of "Fire in Minnesota," we have tried to present a life-like picture of the Minnesota fire problem. Through the use of MFIRS and State Fire Marshal investigators' data we have identified causes and assessed the impact of fire on the lives of our citizens.

Each year, on this page of "Fire in Minnesota," we have focused on a problem or preventable behavior that resulted in tragic deaths in our state. We have addressed failure to install and maintain smoke detectors, and the need for rental properties to meet safety codes. The need for adequate supervision of children has been stressed. Safe use of alcohol and tobacco products has been a repeated concern over the years. Most recently, the need for educating and protecting the elderly and vulnerable populations has been featured.

The fire community has responded to the needs expressed here and elsewhere! In the past decade, the number of fire deaths in Minnesota has dropped roughly 25 %. We have rejoiced to see smoke detectors required by law in every sleeping area. We have applauded the growth of the fire sprinkler industry, and taken steps to ensure installation standards for sprinkler systems. By enforcing fire and life safety code standards in our homes, schools and public buildings, we protect our citizens as they go about their daily lives. In our communities, we have used the golden opportunity of Fire Prevention Week to reinforce safety messages and behaviors in our schools.

Despite these measurable and praiseworthy successes, we still have a task before us. We still need to keep doing "what works" – teaching fire prevention behavior to all ages, demanding the use and maintenance of smoke detectors, drilling all citizens in safe-escape techniques. Our challenge is to move into the next millennium, fostering new partnerships within our communities for the purpose of educating our youth, our elderly, and our special, vulnerable populations. We, the fire community, need to ensure that all citizens have the knowledge to prevent fires, the skills to react appropriately should they occur, and a sense of accountability for their own fire-safe behavior and the protection of those entrusted to their care. What a challenge for the twenty-first century!

In 25% of fatalities in residential occupancies, smoke detectors were improperly maintained or absent altogether.

Fire Deaths and Smoke Detector Performance*

In 1998, 52 civilians lost their lives in fires. While deaths in residential settings were down 6% in 1998, they still represent 62% of Minnesota's fire fatalities. In 25% of the casualties in dwellings, smoke detectors (required in every dwelling since 1993) were either absent or non-operating. In another 47% of the dwelling cases, it was not possible to determine whether a smoke detector was present or operating.

FIRE DEATHS IN RESIDENTIAL DWELLINGS

	<u>Fatalities</u>	<u>% of Dwell. Fires</u>	<u>% of Total Deaths</u>
No Smoke Detectors Present	3	9%	6%
Inoperable Smoke Detectors Present	5	16%	10%
Working Smoke Detectors Present	6	19%	12%
Unk. if Detectors Present/Working	15	47%	29%
Not a Factor/Suicides, Explosions, etc.	3	9%	6%
Total Deaths in Dwellings	32	100%	63%
Other Fire Deaths (Including vehicles, outdoors, other structures, etc.)	20	--	38%
Total Fire Deaths	52	--	100%

What is known about the six people who died in dwellings equipped with working smoke detectors? The following additional factors have been identified.

SIX FATALITIES WHERE THERE WERE WORKING SMOKE DETECTORS: WHY DIDN'T THEY GET OUT?

	<u>Fatalities</u>	<u>Percent</u>
Elderly/mobility impaired	4	67%
Elderly/escaped, died of burn complications	1	17%
Alcohol or Drug Impaired	1	17%
TOTAL	6	100%

This year's statistics on fatalities in dwellings with working smoke detectors tell an especially sad story. Except for the alcohol-impaired victim, all of those who did not survive, despite working detectors, were elderly. Although two of these fires were of undetermined cause, three more were caused by careless smoking by the victim. Perhaps the most poignant situation involved a wheelchair-bound MS victim, who could not get out because her chair became stuck in a doorway, preventing her escape. While working smoke detectors are vital to all, it is increasingly clear that we must address the issues of adequate means of egress for the handicapped, as well as personal fire safety behaviors for the growing elderly population.

*All charts and information on this page has been taken from the State Fire Marshal Division's 1998 fire death database, which is based on fire death investigations done by this office and MFIRS data.

Since August 1, 1993, smoke detectors have been required in every dwelling in Minnesota that has a sleeping area.

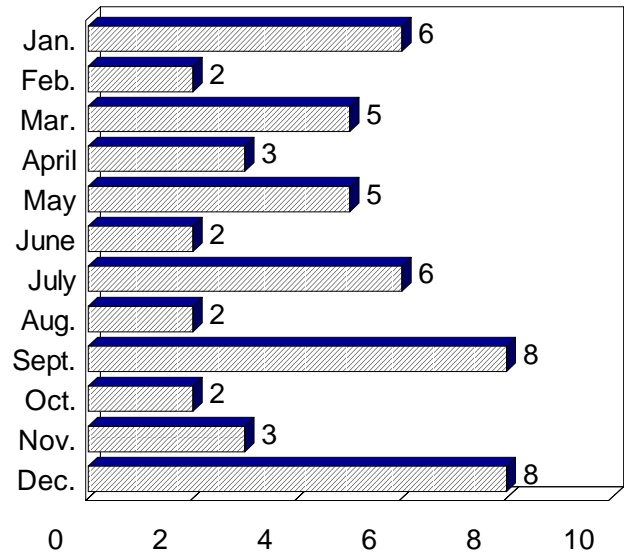
CIVILIAN FIRE DEATHS: WHO AND WHEN

Sixty-two percent of fire deaths occurred between the hours of midnight and noon. Also, the two months with the greatest number of fire deaths were September and December.

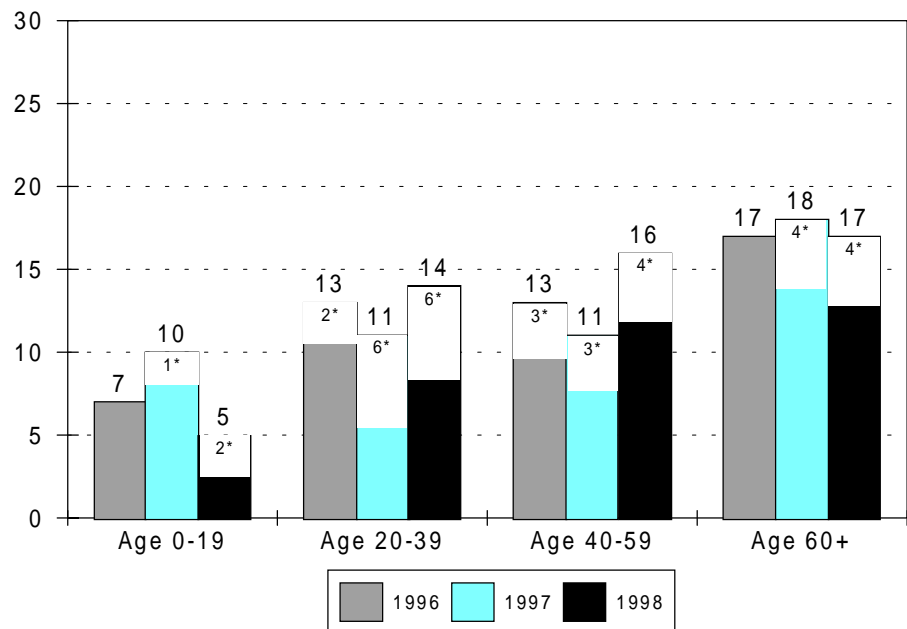
FIRE DEATHS BY TIME OF DAY

	TOTAL	0000-0600	0600-1200	1200-1800	1800-2400
Careless Smoking	13	5	4	3	1
Vehicle	14	1	4	5	4
Wood Heating	2	0	0	2	0
Suicide	2	0	1	1	0
Arson	2	2	0	0	0
Child Play	2	0	2	0	0
Natural Gas Explos.	4	0	4	0	0
Cooking	3	1	2	0	0
Other	3	1	0	1	1
Undetermined	7	4	1	0	2
Total	52	14	18	12	8

FIRE DEATHS BY MONTH



FIRE DEATHS BY AGE



*Fire deaths listed as suicides or motor vehicle fire incidents.

Deaths among elderly account for 33% of fire deaths in 1998.

In 1998, the very good news is that fire deaths in children 0-19 yrs. dropped 50% from 1997. The alarming news is a substantial rise (36% over 1997) in the death rate among those from 20-59 yrs. This middle group is the most active and mobile, but should also be the best able to respond appropriately. Unfortunately, 33% of the 20-59 year-old fatalities showed alcohol/drug levels significant enough to impair their ability to escape a fire. Fatalities in the 60+ range are down very slightly from '97, but still account for the highest number of deaths in any single age group (33% of total).

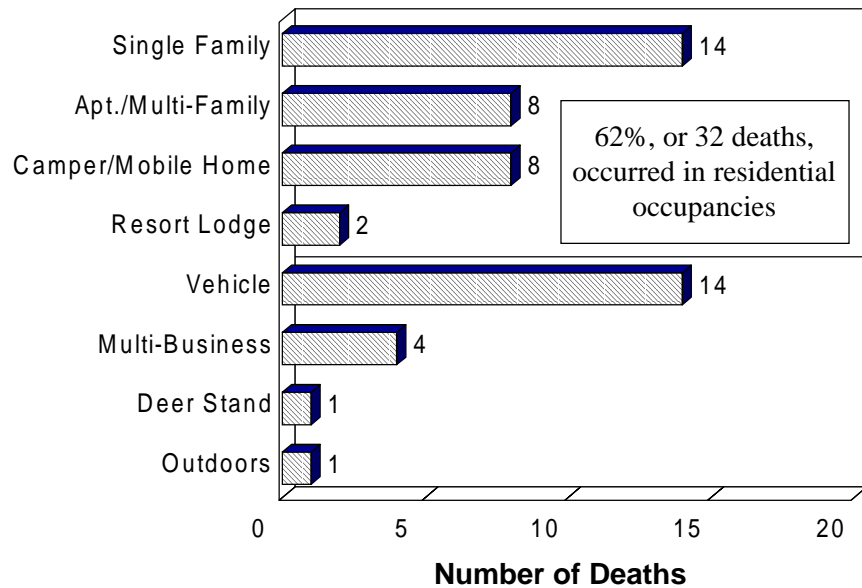
CIVILIAN FIRE DEATHS: WHERE AND WHY

62% of fire deaths occurred in residential property.

Careless smoking was identified as the cause of 25% of all fire deaths. Sixty-two percent (62%) of those careless smoking deaths were also alcohol-related.

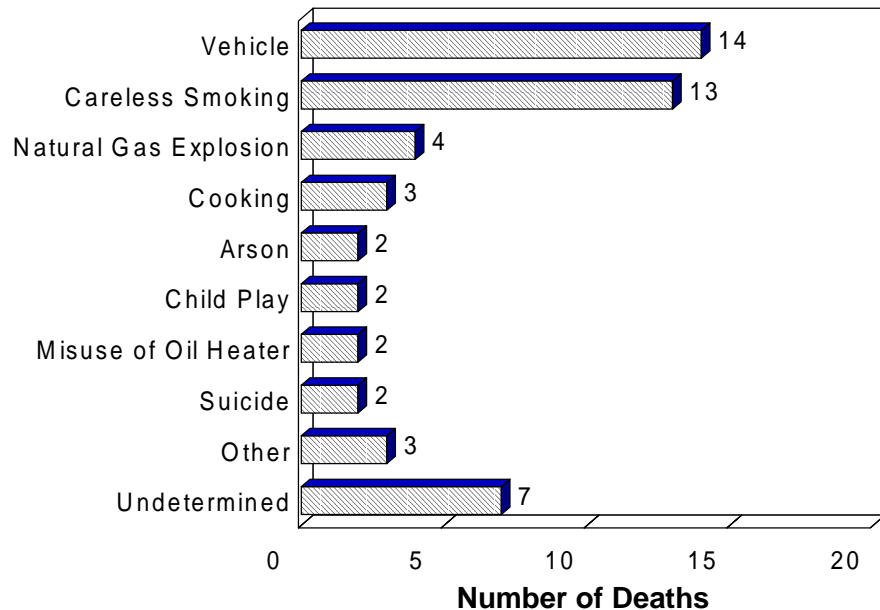
Alcohol/Drugs was clearly a factor in 25% of all fire deaths.

Civilian Deaths By Location



Sixty-two percent of the 1998 fire deaths occurred where people generally feel safest - at home. Careless smoking was the major cause of fire in these deaths.

Civilian Deaths By Cause

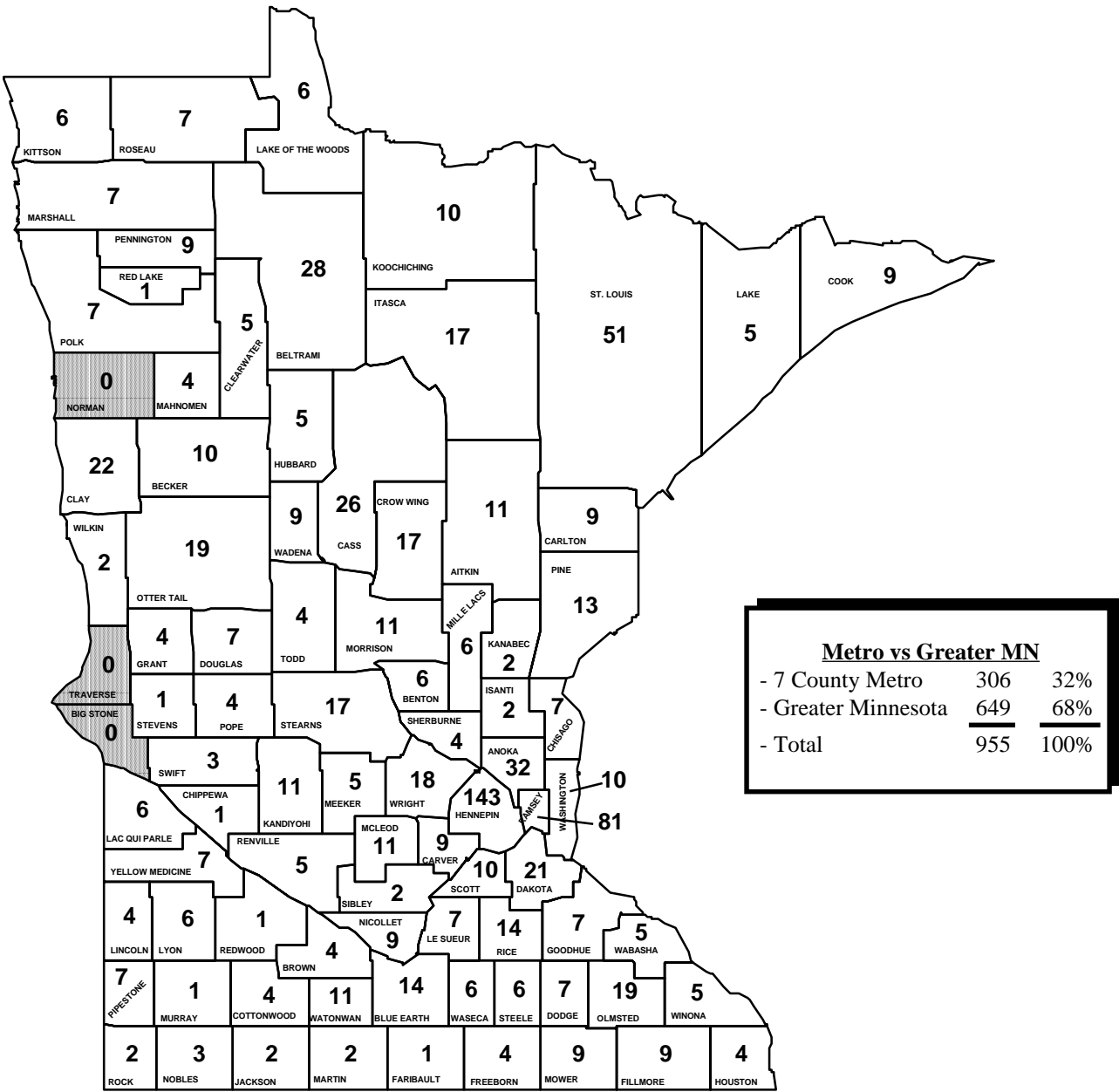


For the first time since 1988, careless smoking was not the leading cause of fire deaths -- vehicle fires were. Alcohol or other drug use was present or identified as an impairing factor in 25% of all fire deaths (13 deaths) and 62% in fire deaths attributed to careless smoking.

Fire deaths in greater Minnesota outpace those in the seven county metro area by a rate of two to one.

Civilian Death Rates

In the past 15 years, 955 Minnesota civilians have died in fires (see distribution by county below). During that time, fire deaths in greater Minnesota have outpaced those in the seven county metro area by a rate of two to one. In 1998, greater Minnesota contained 48% of the state’s population and experienced a per capita death rate of 1.9 for every 100,000 people. The per capita rate for the metro area in 1998 was 0.6 per 100,000, while the rate for the state as a whole was 1.2 per 100,000. This compares to a national rate of 1.49 per 100,000 for the same period. (The United States consistently has among the highest per capita death rates in the world.) Three counties in the state have remained fatality free for 15 year; they are Norman, Traverse, and Big Stone.



Minnesota's Fire Deaths

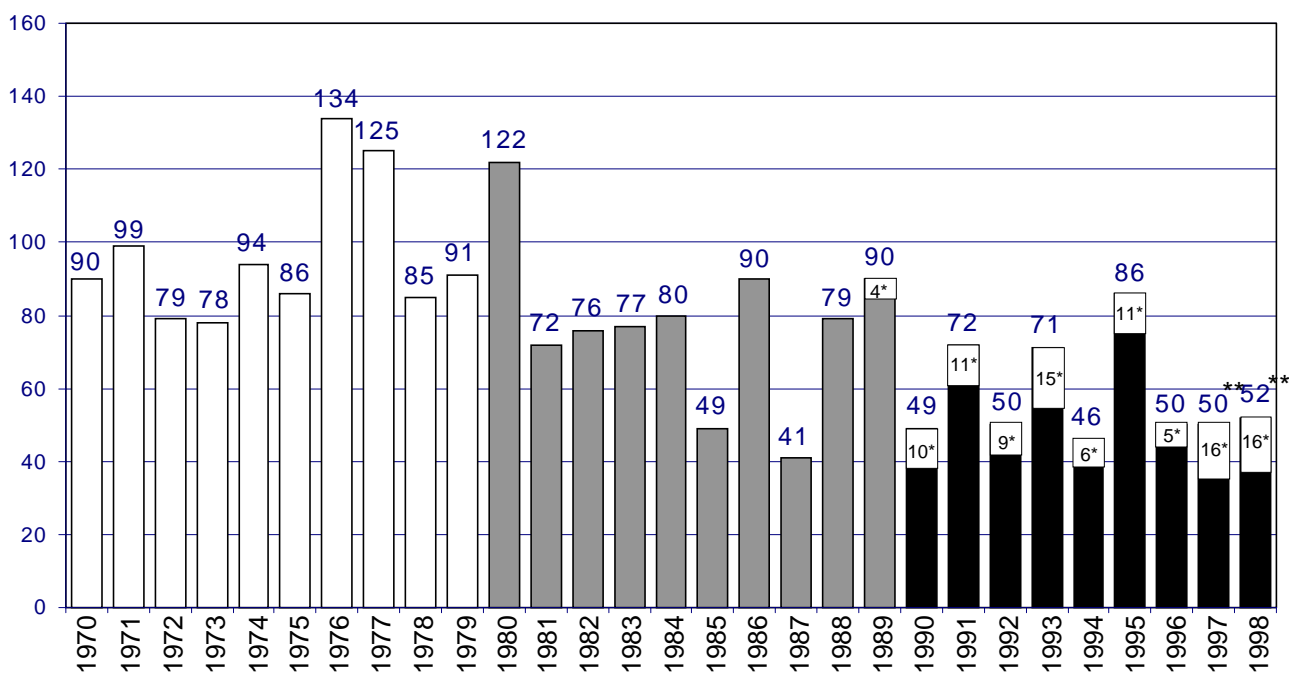
1970's	961 deaths
1980's	776 deaths
1990's	584 deaths (projected)

20 YEARS OF FIRE DEATH HISTORY

As the population of Minnesota has continued to grow, from 3.8 million in 1970 to 4.4 million in 1990, fire deaths have decreased. During the decade of the eighties, fire deaths in Minnesota dropped 19% from the levels of the 1970s. In the first eight years of this decade, from January, 1990 through December, 1998, 526 Minnesotans have died in fires. Should this rate continue, the decade of the nineties will see a 25% decrease in fire deaths from the eighties.

What factors might be affecting the rate of deaths? Since the mid-seventies, the promotion of fire protection technology (smoke detectors, sprinkler systems, etc.) has become more widespread in Minnesota. During this time, the state has mandated new inspection programs targeting hotels, motels and schools. Fire safety awareness and public education efforts have also increased.

FIRE DEATHS 1970 - 1998



*Number of vehicle/suicide fires.

**Does not include firefighter deaths.

FIREFIGHTER DEATHS

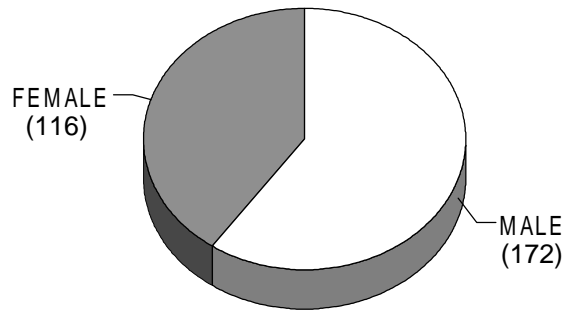
We are saddened to report one on-duty death of a firefighter in 1998. A heart attack following a training exercise caused the death of Michael C. Wiborg, Chanhassen Fire Department. The entire fire community mourns his loss and grieves with his family.

As a fire service serving a wider community, we must be increasingly committed to guarding the health and safety practices of our members, just as we would for members of the military service who risk their lives for us.

CIVILIAN INJURIES

In 1998, 289 civilians were injured in Minnesota fires. Injuries to males were 60%, compared with 40% to females.

In 1998, 289 civilian injuries were reported through the MFIRS system, a 5% decrease from 1997. The numbers do not represent the actual number of fire injuries occurring in the state, as it includes only those victims who have direct contact with the fire department. Many burn victims are taken to emergency rooms by private car or ambulance.



AGE OF VICTIM	NO. OF VICTIMS
0-19	52
20-39	105
40-59	57
60-OVER	19
UNREPORTED	56
TOTAL	289

A breakdown of reported injuries by gender shows injuries to males outnumbering injuries to females by a rate of nearly 2 to 1. Persons age 20-39 were most frequently reported as injured.

ACTIVITY AT TIME OF FIRE

People trying to control a fire accounted for 23% of all injuries, indicating a need to educate people on how to react to a fire. The age group between 20-39 yrs. has the largest number of reported injuries, perhaps because they are the most mobile and active age group, and are more likely to try to contain the fire themselves before calling the fire department.

Twenty-three percent of all injuries were to people trying to control or extinguish a fire. Citizens between 20-39 yrs. of age were the most frequently injured age group.

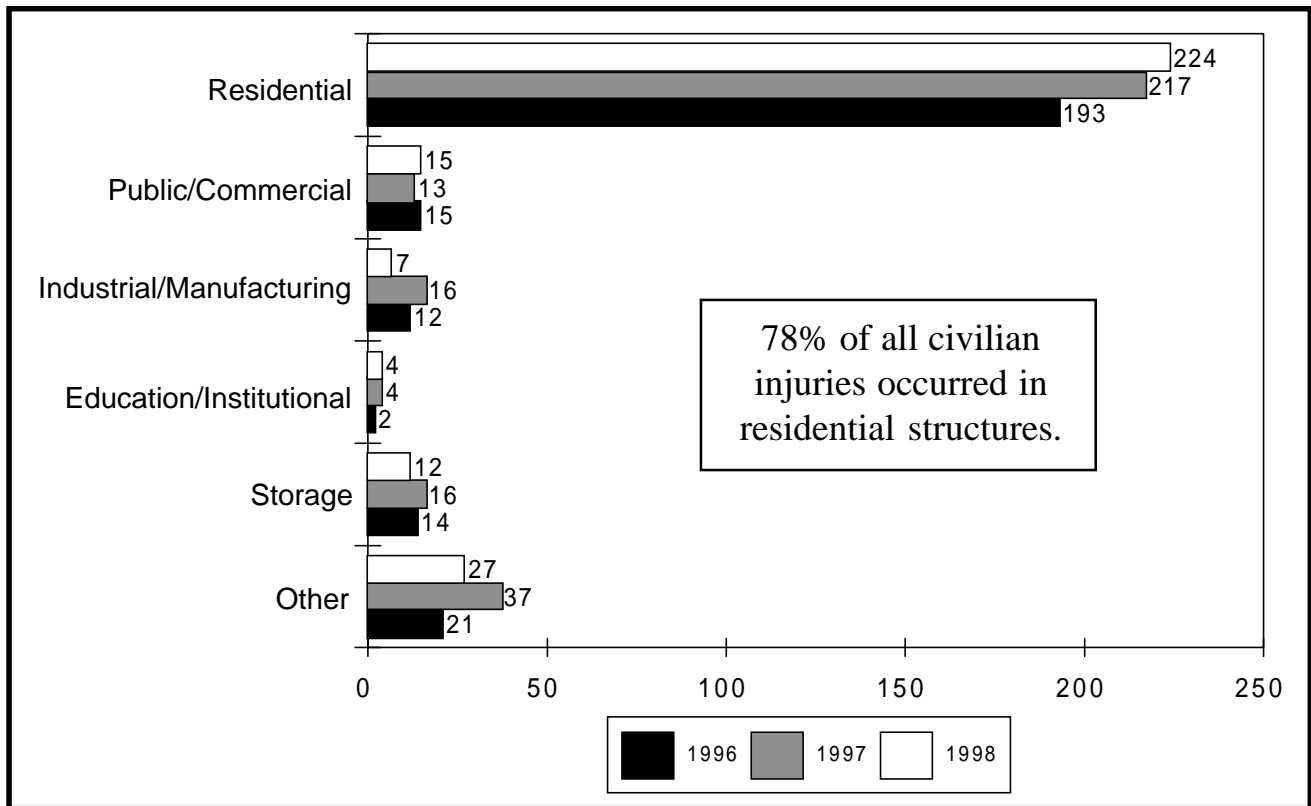
ACTIVITIES FOR ALL INJURIES

Activity	#	%
Fire Control	66	23%
Escape	32	11%
Sleeping	31	11%
Irrational act	17	6%
Unable to act	13	4%
Rescue attempt	12	4%
Other	34	12%
Unkn/Unrep	84	29%
	<u>289</u>	<u>100%</u>

ACTIVITIES FOR 20-39 YEAR OLDS

Activity	#	%
Fire Control	27	26%
Sleeping	11	10%
Irrational act	8	8%
Rescue attempt	7	7%
Escape	6	6%
Unable to act	6	6%
Other	12	11%
Unkn/Unrep	28	27%
	<u>105</u>	<u>100%</u>

CIVILIAN INJURIES BY PROPERTY TYPE



As with fire fatalities, more civilian fire injuries occur in residential structures than any other property.

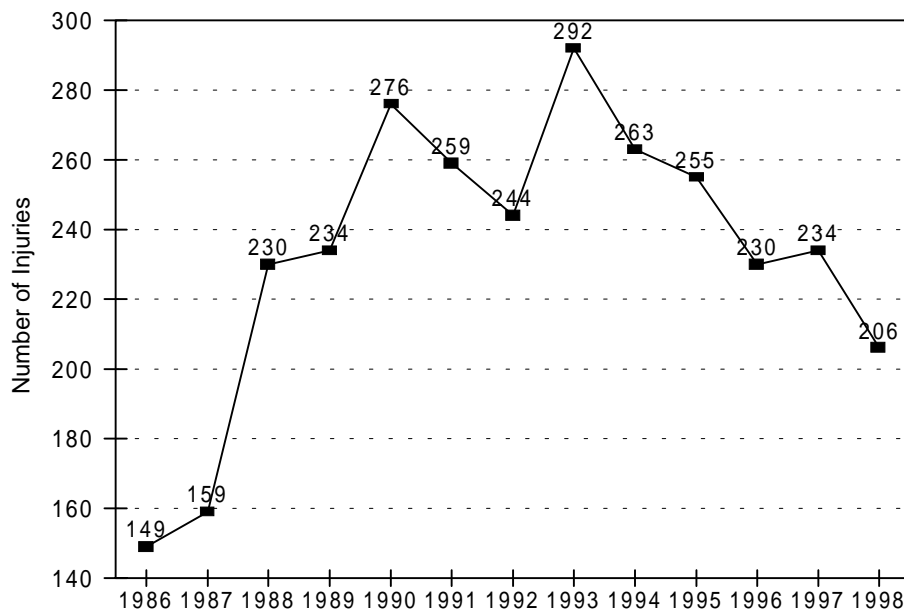
CIVILIAN INJURIES BY ACTIVITY AND STRUCTURE

	<u>Residential</u>	<u>Pub/Comm</u>	<u>Indus/Manu</u>	<u>Educ/Inst</u>	<u>Storage</u>	<u>Other</u>
Fire Control	55	1	--	1	1	8
Escaping	30	1	--	--	1	--
Sleeping	31	--	--	--	--	--
Other	14	9	2	--	2	5
Rescue Attempt	6	1	--	--	4	1
Unable to Act	6	--	--	--	--	7
Irrational Action	10	1	1	2	2	1
Unknown	<u>72</u>	<u>2</u>	<u>4</u>	<u>1</u>	<u>2</u>	<u>5</u>
TOTAL	224	15	7	4	12	27

FIREFIGHTER INJURIES

In 1998, 206 Minnesota firefighters were injured while responding to, involved in, or returning from emergency situations. Of these 206 injuries, 156, or 76%, were directly fire related. (This does not include injuries that occur during training or at the stations.) Sixty percent (60%) of these fire-related injuries occurred while firefighters were fighting residential structure fires.

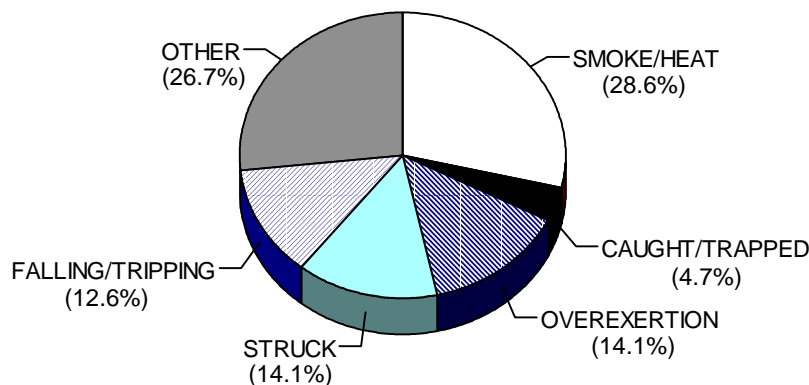
THIRTEEN-YEAR HISTORY OF MINNESOTA FIREFIGHTER INJURIES



Of the 206 firefighter injuries, 156 (76%) occurred in the course of fighting fires.

A breakdown of injuries shows that smoke/heat and other related injuries are the most frequent causes of firefighter injuries.

MINNESOTA FIREFIGHTER INJURIES: CAUSES



Exposure to smoke and heat accounted for 28.6% of the injuries. Falling or tripping also caused 12.6% of Minnesota firefighter injuries. The percentage for the smoke and heat category is slightly higher than the national average (27.8%), but the falling and tripping category is below the national (16.5%).

SUMMARY

Clearly, Minnesotans are most at risk from fire death and injury at home. Sixty-two percent (62%) of the state's fire deaths and 78% of civilian injuries in 1998 occurred in residential occupancies.

The presence or absence of working smoke detectors in dwellings is a critical factor in fire fatalities. In 25% of the 32 fire fatalities occurring in dwellings, no smoke detectors were present, or they were present but not working; in 47% it was not known whether detectors were present or functioning.

Seventeen Minnesotans aged 60 yrs. and above lost their lives in fires in 1998, indicating once again the vulnerability of the elderly population.

For the first time since 1988 careless smoking was not the leading cause of fire deaths; vehicle fires caused the most fatalities in 1998. Alcohol or other drug use was an impairing factor in 25% of all fire deaths; these fires resulted in thirteen fatalities.

Over three-fourths of all fire-related civilian injuries occurred in residential dwellings. Twenty-three percent (23%) of all civilian fire injuries occurred during attempts to control the fire. **Sixty percent of fire-related firefighter injuries occurred in the course of battling residential fires.** These numbers accentuate the need for fire safety education in the home and consistent, ongoing training and updated equipment for the fire service.

Since 1984, fire deaths in greater Minnesota have outpaced those in the metro area at a rate of two to one. Statewide, fire deaths have decreased over the past twenty years, even as Minnesota's population has grown. Total fire deaths during the eighties reflected a 19% drop from the seventies. If current trends continue, the decade of the nineties will see a 25% decrease in fire deaths from the previous 10 years. However, many preventable tragedies continue to occur. **Prevention efforts, particularly those targeting children, the elderly, and other at-risk groups are essential to reducing the needless, tragic losses from fire.**

PARTICIPATION

MINNESOTA FIRE INCIDENT REPORTING SYSTEM

"FIGHTING
FIRES
WITH FACTS!"



MINNESOTA
FIRE
DEPARTMENTS

A sample of the Minnesota Fire Incident Reporting System (MFIRS-1) form. The form is divided into sections A through U, each containing specific data fields for reporting fire incidents. Section A includes fields for date, time, and location. Section B includes fields for fire type and cause. Section C includes fields for fire department and incident details. Section D includes fields for fire department and incident details. Section E includes fields for fire department and incident details. Section F includes fields for fire department and incident details. Section G includes fields for fire department and incident details. Section H includes fields for fire department and incident details. Section I includes fields for fire department and incident details. Section J includes fields for fire department and incident details. Section K includes fields for fire department and incident details. Section L includes fields for fire department and incident details. Section M includes fields for fire department and incident details. Section N includes fields for fire department and incident details. Section O includes fields for fire department and incident details. Section P includes fields for fire department and incident details. Section Q includes fields for fire department and incident details. Section R includes fields for fire department and incident details. Section S includes fields for fire department and incident details. Section T includes fields for fire department and incident details. Section U includes fields for fire department and incident details.

Fire information is requested on a weekly basis by the media, the public, the fire service and the fire protection community.

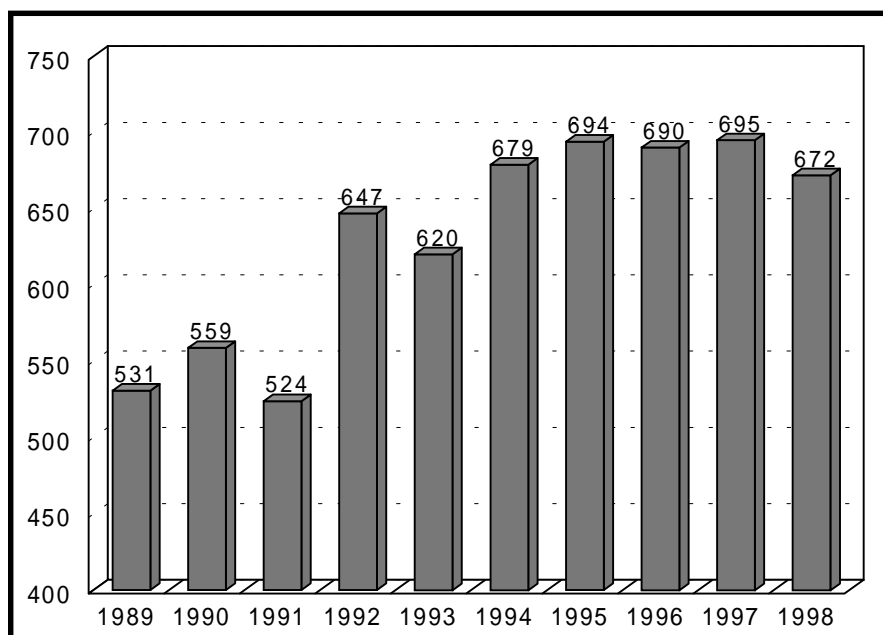
PARTICIPATION - Minnesota Fire Incident Reporting System

The Minnesota State Fire Marshal Division appreciates the efforts of the fire departments who submitted MFIRS reports in 1998. MFIRS input tells us where you have been, and what you have done. This information is essential if we are to understand and effectively combat the fire problem in Minnesota. It allows the Division to focus on real fire problems, rather than popular perceptions. On the local level, this data gives us the knowledge to intelligently focus prevention efforts; it documents our needs when we make budget requests for staffing or equipment.

Fire information is requested on a weekly basis by the media, the public, the fire service and the fire protection community. It is used to support legislative initiatives and to guide public fire safety campaigns.

The reporting history of Minnesota fire departments from 1994 - 1998 is listed on the following pages. Departments are listed by county, with the total percent of those reporting in 1998 indicated. In 26 counties, 100% of the fire departments reported to the MFIRS system.

FIRE DEPARTMENTS' MFIRS PARTICIPATION



A major concern to the Division is that participation in MFIRS decreased by 23 departments in 1998. Electronic reporting has increased the last few years; it's ease and convenience makes it an increasingly popular choice by fire departments. If you would like information about how to set up the MFIRS system or how to computerize your reporting, call Ernie Scheidness or Nora Gierok at 651/215-0500.

AITKIN COUNTY*83% Reporting*

94 95 96 97 98

* * * * * AITKIN
 * * * * * HILL CITY
 * * * * * JACOBSON
 * * * * * MCGRATH
 * * * * * PALISADE VOL
 * * * * * McGregor Vol

ANOKA COUNTY*(15) - 100% Reporting*

* * * * * ANDOVER
 * * * * * ANOKA-CHAMPLIN
 * * * * * BETHEL
 * * * * * CENTENNIAL
 * * * * * COLUMBIA HEIGHTS
 * * * * * COON RAPIDS
 * * * * * EAST BETHEL
 * * * * * FRIDLEY
 * * * * * HAM LAKE
 * * * * * LEXINGTON
 * * * * * LINWOOD VOL
 * * * * * OAK GROVE
 * * * * * RAMSEY
 * * * * * SPRING LAKE PARK
 * * * * * ST FRANCIS

BECKER COUNTY*67% Reporting*

* * * * * AUDUBON
 * * * * * CALLAWAY
 * * * * * CARSONVILLE VOL
 * * * * * DETROIT LAKES
 * * * * * LAKE PARK
 * * * * * WOLF LAKE
 * * * * * Frazee
 * * * * * Ogema
 * * * * * White Earth Vol

BELTRAMI COUNTY*50% Reporting*

94 95 96 97 98

* * * * * ALASKA
 * * * * * BEMIDJI
 * * * * * KELLIHER VOL
 * * * * * Blackduck
 * * * * * Red Lake
 * * * * * Solway

BENTON COUNTY*67% Reporting*

* * * * * FOLEY
 * * * * * SAUK RAPIDS
 * * * * * Rice

BIG STONE COUNTY*(6) - 100% Reporting*

* * * * * BEARDSLEY
 * * * * * CLINTON
 * * * * * CORRELL
 * * * * * GRACEVILLE
 * * * * * ODESSA
 * * * * * ORTONVILLE

BLUE EARTH COUNTY*92% Reporting*

* * * * * AMBOY
 * * * * * EAGLE LAKE VOL
 * * * * * GOOD THUNDER
 * * * * * LAKE CRYSTAL
 * * * * * MADISON LAKE
 * * * * * MANKATO
 * * * * * MAPLETON
 * * * * * PEMBERTON
 * * * * * SKYLINE
 * * * * * SOUTH BEND
 * * * * * ST CLAIR
 * * * * * Vernon Center

BROWN COUNTY*80% Reporting*

94 95 96 97 98

* * * * * COMFREY
 * * * * * NEW ULM
 * * * * * SLEEPY EYE
 * * * * * SPRINGFIELD VOL
 * * * * * Hanska

CARLTON COUNTY*93% Reporting*

* * * * * BARNUM VOL
 * * * * * BLACKHOOF
 * * * * * CARLTON VOL
 * * * * * CLOQUET
 * * * * * CROMWELL VOL
 * * * * * HOLYOKE VOL
 * * * * * KETTLE RIVER
 * * * * * MAHTOWA
 * * * * * MOOSE LAKE
 * * * * * PERCH LAKE VOL
 * * * * * THOMSON TWP
 * * * * * WRENSHALL
 * * * * * WRIGHT VOL
 * * * * * Scanlon Vol

CARVER COUNTY*(12) - 100% Reporting*

* * * * * CARVER
 * * * * * CHANHASSEN
 * * * * * CHASKA
 * * * * * COLOGNE
 * * * * * HAMBURG
 * * * * * MAYER
 * * * * * NEW GERMANY
 * * * * * NORWOOD
 * * * * * VICTORIA
 * * * * * WACONIA
 * * * * * WATERTOWN
 * * * * * YOUNG AMERICA

KEY

* Fire Departments submitting MFIRS each year.

CASS COUNTY

91% Reporting

94 95 96 97 98

* * * * * BACKUS VOL
 * * * * * BENA
 * * * * * CASS LAKE
 * * * * * CROOKED LAKE VOL
 * * * * * FEDERAL DAM
 * * * * * HACKENSACK AREA
 * * * * * LONGVILLE VOL
 * * * * * PILLAGER AREA
 * * * * * PINE RIVER
 * * * * * REMER
 * * * * * Walker

CHIPPEWA COUNTY

(5) - 100% Reporting

* * * * * CLARA CITY
 * * * * * MAYNARD
 * * * * * MILAN
 * * * * * MONTEVIDEO
 * * * * * WATSON

CHISAGO COUNTY

(11) - 100% Reporting

* * * * * ALMELUND
 * * * * * CENTER CITY
 * * * * * CHISAGO CITY
 * * * * * HARRIS
 * * * * * LINDSTROM
 * * * * * NORTH BRANCH
 * * * * * RUSH CITY
 * * * * * SHAFER
 * * * * * STACY
 * * * * * TAYLORS FALLS
 * * * * * WYOMING

CLAY COUNTY

67% Reporting

* * * * * BARNESVILLE
 * * * * * DILWORTH
 * * * * * HITTERDAL
 * * * * * MOORHEAD
 * * * * * SABIN-ELMWOOD
 * * * * * ULEN
 * * * * * Felton Comm
 * * * * * Glyndon Vol
 * * * * * Hawley

CLEARWATER COUNTY

83% Reporting

94 95 96 97 98

* * * * * BAGLEY
 * * * * * BEAR CREEK
 * * * * * CLEARBROOK
 * * * * * HANGAARD TWP
 * * * * * SHEVLIN
 * * * * * Gonvick

COOK COUNTY

50% Reporting

* * * * * GUNFLINT TRAIL
 * * * * * HOVLAND
 * * * * * SCHROEDER
 * * * * * TOFTE
 * * * * * Grand Marais Vol
 * * * * * Grand Portage
 * * * * * Lutsen Twp Vol
 * * * * * Maple Hill

COTTONWOOD COUNTY

(5) - 100% Reporting

* * * * * JEFFERS
 * * * * * MOUNTAIN LAKE
 * * * * * STORDEN
 * * * * * WESTBROOK
 * * * * * WINDOM

CROW WING COUNTY

86% Reporting

* * * * * BRAINERD
 * * * * * CROSBY VOL
 * * * * * CROSSLAKE
 * * * * * CUYUNA
 * * * * * DEERWOOD
 * * * * * EMILY VOL
 * * * * * GARRISON
 * * * * * IDEAL TWP
 * * * * * IRONTON
 * * * * * MISSION TWP
 * * * * * PEQUOT LAKES
 * * * * * RIVERTON
 * * * * * Fifty Lakes
 * * * * * Nisswa

DAKOTA COUNTY

(14) - 100% Reporting

94 95 96 97 98

* * * * * APPLE VALLEY
 * * * * * BURNSVILLE
 * * * * * EAGAN
 * * * * * FARMINGTON
 * * * * * HAMPTON
 * * * * * HASTINGS
 * * * * * INVER GROVE HTS
 * * * * * LAKEVILLE
 * * * * * MENDOTA HEIGHTS
 * * * * * MIESVILLE VOL
 * * * * * RANDOLPH
 * * * * * ROSEMOUNT
 * * * * * SOUTH ST PAUL
 * * * * * WEST ST PAUL

DODGE COUNTY

(6) - 100% Reporting

* * * * * CLAREMONT
 * * * * * DODGE CENTER
 * * * * * HAYFIELD
 * * * * * KASSON
 * * * * * MANTORVILLE
 * * * * * WEST CONCORD

DOUGLAS COUNTY

91% Reporting

* * * * * ALEXANDRIA
 * * * * * BRANDON
 * * * * * CARLOS
 * * * * * EVANSVILLE
 * * * * * FORADA TWP
 * * * * * KENSINGTON
 * * * * * LEAF VALLEY TWP
 * * * * * MILLERVILLE
 * * * * * MILTONA
 * * * * * OSAKIS
 * * * * * Garfield

FARIBAULT COUNTY*(11) - 100% Reporting*

94 95 96 97 98

* * * * * BLUE EARTH
* * * * * BRICELYN
* * * * * DELAVAN VOL
* * * * * EASTON VOL
* * * * * ELMORE
* * * * * FROST
* * * * * KIESTER
* * * * * MINNESOTA LAKE
* * * * * WALTERS VOL
* * * * * WELLS
* * * * * WINNEBAGO VOL

FILLMORE COUNTY*82% Reporting*

* * * * * CHATFIELD
* * * * * FOUNTAIN
* * * * * HARMONY
* * * * * LANESBORO
* * * * * MABEL VOL
* * * * * OSTRANDER
* * * * * RUSHFORD
* * * * * SPRING VALLEY
* * * * * WYKOFF
* * * * * Canton
* * * * * Preston

FREEBORN COUNTY*69% Reporting*

* * * * * ALBERT LEA
* * * * * ALBERT LEA TWP
* * * * * ALDEN
* * * * * EMMONS
* * * * * FREEBORN
* * * * * GLENNVILLE
* * * * * HARTLAND
* * * * * LONDON
* * * * * MANCHESTER
* * * * * MYRTLE
* * * * * TWIN LAKES
* * * * * Clarks Grove Vol
* * * * * Conger
* * * * * Geneva
* * * * * Hayward
* * * * * Hollandale

GOODHUE COUNTY*50% Reporting*

94 95 96 97 98

* * * * * CANNON FALLS
* * * * * GOODHUE
* * * * * PINE ISLAND
* * * * * RED WING
* * * * * Dennison
* * * * * Kenyon
* * * * * Wanamingo
* * * * * Zumbrota

GRANT COUNTY*83% Reporting*

* * * * * ASHBY
* * * * * ELBOW LAKE
* * * * * HERMAN VOL
* * * * * HOFFMAN
* * * * * WENDELL
* * * * * Barrett

HENNEPIN COUNTY*97% Reporting*

* * * * * BLOOMINGTON
* * * * * BROOKLYN CENTER
* * * * * BROOKLYN PARK
* * * * * CRYSTAL
* * * * * DAYTON
* * * * * EDEN PRAIRIE
* * * * * EDINA
* * * * * EXCELSIOR
* * * * * GOLDEN VALLEY
* * * * * HAMEL
* * * * * HOPKINS
* * * * * LONG LAKE
* * * * * LORETTO VOL
* * * * * MAPLE GROVE
* * * * * MAPLE PLAIN
* * * * * MEDICINE LAKE
* * * * * MINNEAPOLIS
* * * * * MINNETONKA
* * * * * MOUND
* * * * * MPLS/ST PAUL INT'L
* * * * * AIRPORT
* * * * * NEW HOPE
* * * * * OSSEO
* * * * * PLYMOUTH
* * * * * RICHFIELD
* * * * * ROBBINSDALE
* * * * * ROGERS
* * * * * ST ANTHONY
* * * * * ST BONIFACIUS

94 95 96 97 98

* * * * * ST LOUIS PARK
* * * * * WAYZATA
* * * * * Hanover

HOUSTON COUNTY*86% Reporting*

* * * * * BROWNSVILLE
* * * * * CALEDONIA
* * * * * HOKAH VOL
* * * * * HOUSTON
* * * * * LACRESCENT
* * * * * SPRING GROVE
* * * * * Eitzen

HUBBARD COUNTY*80% Reporting*

* * * * * EAST HUBBARD CO
* * * * * LAKE GEORGE
* * * * * LAPORTE/LAKEPORT
* * * * * PARK RAPIDS
* * * * * Nevis

ISANTI COUNTY*50% Reporting*

* * * * * CAMBRIDGE
* * * * * DALBO
* * * * * Braham
* * * * * Isanti Vol

ITASCA COUNTY*94% Reporting*

* * * * * BALSAM VOL
* * * * * BEARVILLE TWP
* * * * * BOVEY
* * * * * CALUMET
* * * * * COHASSET
* * * * * COLERAINE
* * * * * DEER RIVER
* * * * * GOODLAND
* * * * * GRAND RAPIDS
* * * * * KEEWATIN VOL
* * * * * MARBLE
* * * * * NASHWAUK
* * * * * SQUAW LAKE
* * * * * TACONITE
* * * * * WARBA
* * * * * Bigfork Vol

JACKSON COUNTY

80% Reporting

94	95	96	97	98	
*	*	*	*	*	ALPHA
*	*	*	*	*	HERON LAKE VOL
*	*	*	*	*	JACKSON
*	*	*	*	*	LAKEFIELD
					Okabena

KANABEC COUNTY

(3) - 100% Reporting

*	*	*	*	*	GRASSTON
*	*	*	*	*	MORA
*	*	*	*	*	OGILVIE

KANDIYOHI COUNTY

64% Reporting

*	*	*	*	*	ATWATER
*	*	*	*	*	BLOMKEST
*	*	*	*	*	NEW LONDON
*	*	*	*	*	PRINSBURG
*	*	*	*	*	SPICER
*	*	*	*	*	SUNBURG
*	*	*	*	*	WILLMAR
*	*	*	*	*	Kandiyohi
*	*	*	*	*	Lake Lillian
*	*	*	*	*	Pennock
*	*	*	*	*	Raymond

KITTSOON COUNTY

80% Reporting

*	*	*	*	*	HALLOCK
*	*	*	*	*	KARLSTAD VOL
*	*	*	*	*	LAKE BRONSON
*	*	*	*	*	LANCASTER
*	*	*	*	*	Kennedy

KOOCHICHING COUNTY

83% Reporting

*	*	*	*	*	BIG FALLS VOL
*	*	*	*	*	BIRCHDALE RURAL
*	*	*	*	*	INTERNATIONAL FLS
*	*	*	*	*	LITTLEFORK
*	*	*	*	*	LOMAN RURAL
*	*	*	*	*	Northome

LAC QUI PARLE COUNTY

57% Reporting

94	95	96	97	98	
*	*	*	*	*	BELLINGHAM
*	*	*	*	*	DAWSON
*	*	*	*	*	MADISON
*	*	*	*	*	NASSAU
*	*	*	*	*	Boyd
*	*	*	*	*	Louisburg
*	*	*	*	*	Marietta

LAKE COUNTY

(4) - 100% Reporting

*	*	*	*	*	BEAVER BAY VOL
*	*	*	*	*	FINLAND
*	*	*	*	*	SILVER BAY
*	*	*	*	*	TWO HARBORS

LAKE OF THE WOODS COUNTY

(2) - 100% Reporting

*	*	*	*	*	BAUDETTE
*	*	*	*	*	WILLIAMS

LE SUEUR COUNTY

(8) - 100% Reporting

*	*	*	*	*	CLEVELAND
*	*	*	*	*	ELYSIAN
*	*	*	*	*	KASOTA
*	*	*	*	*	KILKENNY
*	*	*	*	*	LE CENTER
*	*	*	*	*	LESUEUR
*	*	*	*	*	MONTGOMERY
*	*	*	*	*	WATERVILLE

LINCOLN COUNTY

80% Reporting

*	*	*	*	*	ARCO
*	*	*	*	*	IVANHOE
*	*	*	*	*	LAKE BENTON
*	*	*	*	*	TYLER
*	*	*	*	*	Hendricks

LYON COUNTY

70% Reporting

94	95	96	97	98	
*	*	*	*	*	BALATON
*	*	*	*	*	GARVIN
*	*	*	*	*	GHEAT
*	*	*	*	*	MARSHALL
*	*	*	*	*	MINNEOTA
*	*	*	*	*	TAUNTON
*	*	*	*	*	TRACY
					Cottonwood
*	*	*	*	*	Lynd
*	*	*	*	*	Russell

MC LEOD COUNTY

88% Reporting

*	*	*	*	*	BROWNTON VOL
*	*	*	*	*	GLENCOE
*	*	*	*	*	LESTER PRAIRIE
*	*	*	*	*	PLATO
*	*	*	*	*	SILVER LAKE
*	*	*	*	*	STEWART
*	*	*	*	*	WINSTED
					Hutchinson

MAHNOMEN COUNTY

50% Reporting

*	*	*	*	*	ELBOW-TULABY LKS
*	*	*	*	*	MAHNOMEN
*	*	*	*	*	Twin Lakes Vol
					Waubun

MARSHALL COUNTY

75% Reporting

*	*	*	*	*	ALVARADO VOL
*	*	*	*	*	ARGYLE
*	*	*	*	*	NEWFOLDEN
*	*	*	*	*	OSLO
*	*	*	*	*	STEPHEN
*	*	*	*	*	WARREN
*	*	*	*	*	Grygla
*	*	*	*	*	Middle River

MARTIN COUNTY*89% Reporting*

94	95	96	97	98	
*	*		*	*	CEYLON
*	*	*	*	*	DUNNELL
*	*	*	*	*	FAIRMONT
*	*	*		*	GRANADA
*	*	*		*	NORTHROP
*	*	*	*	*	SHERBURN
*	*		*	*	TRIMONT
*	*	*	*	*	TRUMAN
			*		Welcome

MEEKER COUNTY*(6) - 100% Reporting*

	*	*	*		COSMOS
*	*	*	*	*	DASSEL
*	*	*	*	*	EDEN VALLEY
*	*	*	*	*	GROVE CITY
*	*	*	*	*	LITCHFIELD
*	*	*	*	*	WATKINS

MILLE LACS COUNTY*80% Reporting*

*	*	*	*	*	FORESTON
*	*	*	*	*	MILACA
*	*	*	*	*	ONAMIA
*	*	*	*	*	PRINCETON
*	*	*	*		Isle

MORRISON COUNTY*(10) - 100% Reporting*

*	*	*	*	*	BOWLUS
		*	*		FLENSBURG
*	*	*	*	*	LITTLE FALLS
*	*	*	*	*	MOTLEY
*	*	*	*	*	PIERZ
*	*	*	*	*	RANDALL
		*	*	*	ROYALTON
*	*	*	*	*	SCANDIA VALLEY
*		*	*	*	SWANVILLE
*			*		UPSALA

MOWER COUNTY*78% Reporting*

94	95	96	97	98	
*	*	*	*	*	ADAMS VOL
*	*	*	*	*	AUSTIN
*	*	*	*	*	BROWNSDALE
			*	*	DEXTER VOL
*	*	*		*	GRAND MEADOW
			*	*	LYLE
*	*	*	*	*	ROSE CREEK AREA
*					Le Roy
*					Mapleview

MURRAY COUNTY*(8) - 100% Reporting*

*				*	AVOCA
*	*	*	*	*	CHANDLER
*	*	*	*	*	CURRIE VOL
*	*	*	*	*	DOVRAY
*	*	*	*	*	FULDA
		*	*	*	IONA
*	*	*	*	*	LAKE WILSON
*	*	*	*	*	SLAYTON

NICOLLET COUNTY*(5) - 100% Reporting*

*	*	*	*	*	COURTLAND
*	*	*	*	*	LAFAYETTE
*	*	*	*	*	NICOLLET
*	*	*	*	*	NORTH MANKATO
*	*	*	*	*	ST PETER

NOBLES COUNTY*80% Reporting*

*	*	*	*	*	ADRIAN
	*		*	*	BIGELOW
*	*	*	*	*	BREWSTER
*	*	*	*	*	ELLSWORTH
*	*		*	*	LISMORE
*	*	*	*	*	RUSHMORE
*	*		*	*	WILMONT
*	*	*	*	*	WORTHINGTON
*	*	*	*		Dundee
*	*	*			Round Lake

NORMAN COUNTY*75% Reporting*

94	95	96	97	98	
*	*	*	*	*	ADA
*		*	*	*	BORUP
*	*	*	*	*	GARY VOL
*	*	*	*	*	HALSTAD
		*	*	*	SHELLY
*	*	*	*	*	TWIN VALLEY
*			*		Hendrum
*	*	*			Perley-Lee Twp

OLMSTED COUNTY*88% Reporting*

*	*	*	*	*	BYRON
*	*	*	*	*	DOVER
*	*	*	*	*	EYOTA VOL
*	*	*	*	*	ORONOCO
*	*	*	*	*	ROCHESTER
*	*	*	*	*	ROCHESTER RURAL
*	*	*	*	*	STEWARTVILLE
*	*	*	*	*	Rochester Airport

OTTERTAIL COUNTY*71% Reporting*

*	*	*	*		CLITHERALL
*	*	*	*	*	DALTON
*	*	*	*	*	DEER CREEK
*	*	*	*	*	ELIZABETH
*	*	*	*	*	FERGUS FALLS
*	*	*	*	*	HENNING VOL
*	*	*	*	*	NEW YORK MILLS
*	*	*	*	*	OTTERTAIL
*	*		*	*	PARKERS PRAIRIE
*	*		*		PERHAM
*	*	*	*	*	UNDERWOOD
		*	*		VINING
*					Battle Lake
*	*	*			Bluffton
	*				Dent
	*		*		Pelican Rapids Vol
*	*	*	*		Vergas

PENNINGTON COUNTY*(3) - 100% Reporting*

*	*	*	*	*	GOODRIDGE AREA
*	*	*	*	*	ST HILAIRE
*	*	*	*	*	THIEF RIVER FALLS

PINE COUNTY

80% Reporting

94	95	96	97	98	
*	*	*	*	*	ASKOV VOL
*	*	*	*	*	BROOK PARK
*	*	*	*	*	BRUNO
*	*	*	*	*	FINLAYSON
*	*	*	*	*	HINCKLEY VOL
*	*	*	*	*	SANDSTONE VOL
*	*	*	*	*	STURGEON LAKE
*	*	*	*	*	WILLOW RIVER
					Kerrick
*					Pine City

PIPESTONE COUNTY

83% Reporting

*	*	*	*	*	EDGERTON
*	*	*	*	*	JASPER
*	*	*	*	*	PIPESTONE
*	*	*	*	*	RUTHTON
*	*	*	*	*	WOODSTOCK
*	*	*	*	*	Holland

POLK COUNTY

67% Reporting

*	*	*	*	*	BELTRAMI
*	*	*	*	*	CROOKSTON
*	*	*	*	*	EAST GRAND FORKS
*	*	*	*	*	ERSKINE
*	*	*	*	*	FISHER
*	*	*	*	*	MCINTOSH
*	*	*	*	*	MENTOR
			*		WINGER
			*		Climax
*	*	*	*	*	Fertile
*	*	*	*	*	Fosston
*	*				Nielsville

POPE COUNTY

83% Reporting

*	*	*	*	*	GLENWOOD
*	*	*	*	*	LOWRY
*	*	*	*	*	SEDAN
*	*	*	*	*	STARBUCK
*	*	*	*	*	VILLARD VOL
					Cyrus

RAMSEY COUNTY

(11) - 100% Reporting

94	95	96	97	98	
*	*	*	*	*	FALCON HEIGHTS
*	*	*	*	*	FIRE MARSHAL
					CENTRAL OFFICE
*	*	*	*	*	LAKE JOHANNA
*	*	*	*	*	LITTLE CANADA
			*	*	MAPLEWOOD
*	*	*	*	*	NEW BRIGHTON
*	*	*	*	*	NORTH ST PAUL
*	*	*	*	*	ROSEVILLE
*	*	*	*	*	ST PAUL
*	*	*	*	*	VADNAIS HEIGHTS
*	*	*	*	*	WHITE BEAR LAKE

RED LAKE COUNTY

0% Reporting

*	*	*			Oklee
					Plummer
*					Red Lake Falls

REDWOOD COUNTY

(14) - 100% Reporting

*	*	*	*	*	BELVIEW
*	*	*	*	*	CLEMENTS
*	*	*	*	*	LAMBERTON
*	*	*	*	*	LUCAN
*	*	*	*	*	MILROY
*	*	*	*	*	MORGAN
*	*	*	*	*	REDWOOD FALLS
*	*	*	*	*	REVERE
*	*	*	*	*	SANBORN
*	*	*	*	*	SEAFORTH
*	*	*	*	*	VESTA
*	*	*	*	*	WABASSO VOL
*	*	*	*	*	WALNUT GROVE
*	*	*	*	*	WANDA

RENVILLE COUNTY

90% Reporting

*	*	*	*	*	BIRD ISLAND
*	*	*	*	*	BUFFALO LAKE
*	*	*	*	*	FAIRFAX
*	*	*	*	*	FRANKLIN
*	*	*	*	*	HECTOR
*	*	*	*	*	MORTON
*	*	*	*	*	OLIVIA
*	*	*	*	*	RENVILLE
*	*	*	*	*	SACRED HEART
					Danube

RICE COUNTY

(5) - 100% Reporting

94	95	96	97	98	
*	*	*	*	*	FARIBAULT
*	*	*	*	*	LONSDALE
*	*	*	*	*	MORRISTOWN
*	*	*	*	*	NERSTRAND VOL
*	*	*	*	*	NORTHFIELD

ROCK COUNTY

67% Reporting

*	*	*	*	*	BEAVER CREEK
*	*	*	*	*	HILLS
*	*	*	*	*	KENNETH VOL
*	*	*	*	*	LUVERNE
*	*				Hardwick
*	*				Magnolia

ROSEAU COUNTY

75% Reporting

*	*	*	*	*	BADGER
*	*	*	*	*	GREENBUSH
*	*	*	*	*	ROSEAU
*	*	*	*	*	Warroad

ST LOUIS COUNTY

88% Reporting

*	*	*	*	*	ALBORN
*	*	*	*	*	ARROWHEAD
*	*	*	*	*	AURORA
*	*	*	*	*	BABBITT VOL
*	*	*	*	*	BIWABIK VOL
*	*	*	*	*	BREITUNG
*	*	*	*	*	BREVATOR
*	*	*	*	*	BRIMSON AREA VOL
*	*	*	*	*	BUHL VOL
*	*	*	*	*	BUYCK COMM VOL
*	*	*	*	*	CANOSIA VOL
*	*	*	*	*	CENTRAL LKS VOL
*	*	*	*	*	CHERRY TWP
*	*	*	*	*	CHISHOLM
*	*	*	*	*	CLIFTON TWP
*	*	*	*	*	CLINTON VOL
*	*	*	*	*	COLVIN TWP
*	*	*	*	*	COOK
*	*	*	*	*	COTTON VOL
*	*	*	*	*	CULVER
*	*	*	*	*	DULUTH
*	*	*	*	*	EAGLES NEST

94 95 96 97 98

*	*	*	*	*	ELLSBURG
*	*	*	*	*	ELMER
*	*	*	*	*	ELY
*	*	*	*	*	EMBARRASS VOL
*	*	*	*	*	EVELETH
*	*	*	*	*	FAYAL
*	*	*	*	*	FLOODWOOD
*	*	*	*	*	FREDENBERG
*	*	*	*	*	FRENCH VOL
	*	*	*	*	GNESEN VOL
*	*	*	*	*	GRAND LAKE VOL
*	*	*	*	*	GREENWOOD TWP
*	*	*	*	*	HERMANTOWN VOL
*	*	*	*	*	HIBBING
*	*	*	*	*	HOYT LAKES
*		*	*	*	INDUSTRIAL VOL
*	*	*	*	*	KABETOGRAMA
*	*		*	*	KELSEY VOL
*	*	*	*	*	KINNEY-GRT SCOTT
*	*	*		*	LAKELAND VOL
*	*	*	*	*	LAKEWOOD TWP
*	*	*	*	*	MAKINEN
*	*	*	*	*	MC DAVITT
*	*	*	*	*	MC KINLEY VOL
*	*	*	*	*	MEADOWLANDS AREA
		*	*	*	MORSE VOL
*	*	*	*	*	MOUNTAIN IRON
		*	*	*	NORMANNA VOL
*	*	*	*	*	NORTH STAR TWP
*	*	*	*	*	NORTHLAND
*	*	*	*	*	ORR VOL
*	*	*	*	*	PALO TWP
	*		*	*	PEQUAYWAN LAKE
	*	*	*	*	PIKE-SANDY BRITT
*	*	*	*	*	PROCTOR
*	*	*	*	*	RICE LAKE VOL
*	*	*	*	*	SILICA AREA
*	*	*	*	*	SOLWAY RURAL
*	*	*	*	*	TOWER
*	*	*	*	*	VERMILLION LAKE
*	*	*	*	*	VIRGINIA
*	*	*	*	*	Biwabik Twp Vol
					Bois Forte
*	*		*		Crane Lake
*					Evergreen
		*			Gilbert
			*		Greaney-Rauch-
					Silverdale
					Nett Lake
*	*		*		Sturgeon Twp
	*	*	*		Toivola Twp

SCOTT COUNTY

(7) - 100% Reporting

94 95 96 97 98

*	*	*	*	*	BELLE PLAINE
*	*	*	*	*	JORDAN
*	*	*	*	*	NEW MARKET
*	*	*	*	*	NEW PRAGUE
*	*	*	*	*	PRIOR LAKE
*	*	*	*	*	SAVAGE
*	*	*	*	*	SHAKOPEE

SHERBURNE COUNTY

(5) - 100% Reporting

*	*	*	*	*	BECKER VOL
*	*	*	*	*	BIG LAKE
*	*	*	*	*	CLEAR LAKE
*	*	*	*	*	ELK RIVER
*	*	*	*	*	ZIMMERMAN

SIBLEY COUNTY

86% Reporting

*		*	*	*	ARLINGTON
*	*	*	*	*	GAYLORD
*	*	*	*	*	GIBBON
*	*	*	*	*	GREEN ISLE
*	*	*	*	*	HENDERSON
*	*	*	*	*	WINTHROP VOL
*	*	*	*	*	New Auburn

STEARNS COUNTY

96% Reporting

*	*	*	*	*	ALBANY
*	*	*	*	*	AVON
	*	*	*	*	BELGRADE
*	*	*	*	*	BROOTEN
*	*	*	*	*	COLD SPRING
	*	*	*	*	ELROSA
*	*	*	*	*	FREESPORT
*	*	*	*	*	HOLDINGFORD
*	*	*	*	*	KIMBALL
*	*	*	*	*	MELROSE
*	*	*	*	*	NEW MUNICH
*	*	*	*	*	PAYNESVILLE
*	*	*	*	*	RICHMOND
*	*	*	*	*	ROCKVILLE
*	*	*	*	*	SARTELL-LESAUK
*	*	*	*	*	SAUK CENTRE
*	*	*	*	*	ST CLOUD
*	*	*	*	*	ST JOHN'S UNIV
*	*	*	*	*	ST JOSEPH VOL

94 95 96 97 98

*	*	*	*	*	ST MARTIN
*	*	*	*	*	ST STEPHEN
*	*	*	*	*	WAITE PARK
*	*	*	*	*	Lake Henry

STEELE COUNTY

75% Reporting

*	*	*	*	*	BLOOMING PRAIRIE
*	*	*	*	*	MEDFORD VOL
*	*	*	*	*	OWATONNA
*	*				Ellendale Vol

STEVENS COUNTY

(4) - 100% Reporting

*	*	*	*	*	CHOKIO
*	*	*	*	*	DONNELLY
*	*	*	*	*	HANCOCK
*	*	*	*	*	MORRIS

SWIFT COUNTY

75% Reporting

*	*	*	*	*	APPLETON
*	*	*	*	*	BENSON
*	*	*	*	*	DANVERS
			*	*	DEGRAFF
*	*	*	*	*	HOLLOWAY
*	*	*	*	*	KERKHOVEN
*	*	*	*	*	Clontarf
					Murdock

TODD COUNTY

88% Reporting

*	*	*	*	*	BERTHA
*	*	*	*	*	BROWERVILLE
	*	*	*	*	CLARISSA
*	*	*	*	*	GREY EAGLE
*	*	*	*	*	HEWITT
*	*	*	*	*	LONG PRAIRIE
*	*	*	*	*	STAPLES
*	*				Eagle Bend

TRAVERSE COUNTY

25% Reporting

*	*	*	*	*	WHEATON
					Browns Valley
*	*	*	*	*	Dumont
					Tintah

WABASHA COUNTY

(7) - 100% Reporting

94	95	96	97	98	
*	*	*	*	*	ELGIN
*	*	*	*	*	KELLOGG
*	*	*	*	*	LAKE CITY
*	*	*	*	*	MAZEPPA VOL
*	*	*	*	*	PLAINVIEW
*	*	*	*	*	WABASHA
*	*	*	*	*	ZUMBRO FALLS

WADENA COUNTY

50% Reporting

*	*	*	*	*	VERNDALE
*	*	*	*	*	WADENA
					Menagha
					Sebeka

WASECA COUNTY

(4) - 100% Reporting

*	*	*	*	*	JANESVILLE
*	*	*	*	*	NEW RICHLAND
			*	*	WALDORF
*	*	*	*	*	WASECA

WASHINGTON COUNTY

93% Reporting

*	*		*	*	BAYPORT
*	*	*	*	*	COTTAGE GROVE
*	*	*	*	*	HUGO
*	*	*	*	*	LAKE ELMO
*	*	*	*	*	LWR ST CROIX VLY
*	*	*	*	*	MAHTOMEDI
*	*	*	*	*	MARINE ON ST CROIX
*	*	*	*	*	NEW SCANDIA
*	*	*	*	*	NEWPORT
*	*	*	*	*	OAKDALE
*	*	*	*	*	ST PAUL PARK VOL
*	*	*	*	*	STILLWATER
*	*	*	*	*	WOODBURY
*	*	*	*		Forest Lake

WATONWAN COUNTY

63% Reporting

94	95	96	97	98	
*	*	*	*	*	DARFUR
	*	*	*	*	LEWISVILLE
*	*	*	*	*	MADIELIA
*	*	*	*	*	ODIN
		*	*		ST JAMES
					Butterfield
*					LaSalle
	*				Ormsby

WILKIN COUNTY

83% Reporting

*	*	*		*	CAMPBELL
		*	*	*	FOXHOME
		*	*	*	KENT-ABERCROMBIE
*	*	*	*	*	ROTHSAY
*	*	*	*	*	WOLVERTON
*	*	*			Breckenridge

WINONA COUNTY

85% Reporting

*	*	*	*	*	DAKOTA
*	*	*	*	*	GOODVIEW
*	*	*	*	*	LEWISTON
*	*	*	*	*	MINNESOTA CITY
*	*	*	*	*	NODINE VOL
	*	*	*	*	PICKWICK AREA
	*	*	*	*	RIDGEWAY COMM
*	*	*	*	*	ROLLINGSTONE
*	*	*	*	*	ST CHARLES
	*	*	*	*	WILSON VOL
*	*	*	*	*	WINONA
*	*	*	*	*	Altura
*	*				Hidden Valley

WRIGHT COUNTY

93% Reporting

94	95	96	97	98	
*	*	*	*	*	ANNANDALE
*		*	*	*	BUFFALO
*	*	*	*	*	CLEARWATER
*	*	*	*	*	COKATO
*	*	*	*	*	DELANO VOL
*	*	*	*	*	HOWARD LAKE
*	*	*	*	*	MAPLE LAKE
*		*	*	*	MONTICELLO
*	*	*	*	*	MONTROSE
*	*	*	*	*	ROCKFORD
*	*	*	*	*	SOUTH HAVEN
*			*	*	ST MICHAEL
*	*	*	*	*	WAVERLY
*	*				Albertville

YELLOW MEDICINE COUNTY

75% Reporting

*	*	*	*	*	CANBY
*	*		*	*	CLARKFIELD
*		*	*	*	GRANITE FALLS
*	*	*	*	*	HANLEY FALLS
*	*	*	*	*	PORTER
			*	*	ST LEO
*	*	*	*	*	Echo
*	*	*			Woodlake

*Twenty-six fire
departments began
participating in 1998.*

We welcome new and returning departments reporting in 1998:

Avoca	Lakeland Vol.
Bear Creek	Laporte/Lakeport
Beardsley	Milan
Bearville Twp.	New Richland
Bena	Northrop
Campbell	Odessa
Correll	Oslo
Degraff	Perham
Granada	Ridgeway Community
Grand Meadow	Riverton
Hangaard Twp.	St. Michael
Holyoke Vol.	Twin Lakes
Keewatin	Upsala
Kenneth Vol.	Winger
Kent-Ambercrombie	

We lost the following departments in 1998 and encourage them to report next year.

Altura	Frazee	Nielsville
Barrett	Glyndon Vol	Ogema
Biwabik Twp Vol	Gonvick	Pelican Rapids Vol
Blackduck	Greaney-Rauch-Silverdale	Perley-Lee Twp
Braham	Hanover	Preston
Canton	Hayward	Red Lake
Climax	Hendrum	Rochester Airport
Clontarf	Holland	Scanlon Vol
Crane Lake	Isanti Vol	Sturgeon Twp
Dennison	Isle	Toivola Twp
Dumont	Lake Henry	Vergas
Dundee	Lutsen Twp Vol	Vernon Center
Echo	Lynd	Walker
Fertile	Maple Hill	Warroad
Fifty Lakes	McGregor Vol	Welcome
Forest Lake	New Auburn	Zumbrota
Fosston		

FIRE DEPARTMENT RUNS, DOLLAR LOSSES, AND FIRE DEATHS PER COUNTY IN ORDER OF TOTAL DOLLAR LOSS

In some instances, the protection district of the reporting fire department goes beyond its county boundary, but the incident will still be recorded within the department's home county. (*Fire rate = one fire for number of persons indicated. For example, in Hennepin County in 1998 there was one fire for every 236 people.*)

<u>County</u>	<u>Population</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Total Co. Dollar Loss</u>	<u>Fire Rate</u>	<u>Average Dollar Loss/Fire</u>	<u>Fire Deaths</u>
Hennepin	1,032,431	4442	50430	\$23,735,266	236	\$5,436	3
St. Louis	198,213	1290	10800	\$17,800,301	174	\$15,655	6
Stearns	118,791	580	2023	\$12,341,100	226	\$23,507	4
*Ramsey	485,765	1919	16591	\$9,424,420	256	\$4,958	6
*Anoka	243,641	1204	11720	\$7,343,871	212	\$6,403	3
*Dakota	275,227	1202	8114	\$7,249,308	236	\$6,223	1
Washington	145,896	533	6946	\$3,481,151	322	\$7,685	
Mille Lacs	18,670	179	269	\$2,691,401	119	\$17,143	
Itasca	40,863	297	601	\$2,469,091	162	\$9,759	2
Crow Wing	44,249	247	569	\$2,180,584	193	\$9,522	3
Ottertail	50,714	214	254	\$2,098,730	256	\$10,600	2
Fillmore	20,777	80	133	\$2,046,050	285	\$28,028	
*Chisago	30,521	260	290	\$1,769,050	137	\$7,969	
*Redwood	17,254	98	35	\$1,710,100	201	\$19,885	
Kandiyohi	38,761	139	289	\$1,536,927	315	\$12,495	
Winona	47,828	166	1506	\$1,526,593	321	\$10,246	1
Goodhue	40,690	151	681	\$1,489,937	281	\$10,275	
Renville	17,673	75	42	\$1,470,000	242	\$20,137	1
Benton	30,185	79	180	\$1,374,000	413	\$18,822	1
Freeborn	33,060	102	400	\$1,333,995	341	\$13,753	
*Carver	47,915	170	2150	\$1,252,015	309	\$8,078	
*Wabasha	19,744	103	186	\$1,236,950	212	\$13,301	
*Scott	57,846	234	1112	\$1,193,062	265	\$5,473	
Wright	68,710	267	1032	\$1,151,960	273	\$4,571	
Blue Earth	54,044	194	2215	\$1,130,148	283	\$5,917	3
Olmsted	106,470	323	4170	\$1,078,106	333	\$3,369	
Koochiching	16,299	61	25	\$1,003,202	286	\$17,600	
Carlton	29,259	256	1239	\$974,555	135	\$4,512	3
Brown	26,984	43	102	\$943,454	658	\$23,011	
*Sherburne	41,945	230	667	\$887,221	203	\$4,286	
*LeSueur	23,239	83	271	\$878,285	298	\$11,260	
*Rice	49,183	205	394	\$828,950	246	\$4,145	
*Morrison	29,604	113	119	\$818,750	282	\$7,798	
*Chippewa	13,228	45	40	\$748,750	301	\$17,017	
Clay	50,422	143	1952	\$745,981	360	\$5,328	
Beltrami	34,384	122	643	\$736,911	284	\$6,090	2
Mower	37,385	97	234	\$725,106	406	\$7,882	2
*Nicollet	28,076	108	256	\$705,475	267	\$6,719	
Aitkin	12,425	73	71	\$665,225	188	\$10,079	3
Cass	21,791	173	147	\$609,300	133	\$3,715	1
Steele	30,729	96	283	\$603,732	345	\$6,784	
Becker	27,881	130	95	\$576,950	279	\$5,770	1
Grant	6,246	35	19	\$559,250	201	\$18,040	
Douglas	28,674	144	254	\$556,200	209	\$4,060	
Pine	21,264	142	107	\$542,360	206	\$5,266	

<u>County</u>	<u>Population</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Total Co. Dollar Loss</u>	<u>Fire Rate</u>	<u>Average Dollar Loss/Fire</u>	<u>Fire Deaths</u>
*Faribault	16,937	84	127	\$505,250	223	\$6,648	
*Lake of the Woods	4,076	15	0	\$473,100	272	\$31,540	
*Pennington	13,306	79	141	\$471,010	177	\$6,280	
Marshall	10,993	82	102	\$463,600	151	\$6,351	1
*Meeker	20,846	94	275	\$412,135	245	\$4,849	
Nobles	20,098	61	71	\$404,920	341	\$6,863	
Polk	32,498	112	877	\$396,351	312	\$3,811	
Sibley	14,366	44	136	\$378,425	368	\$9,703	
*Stevens	10,634	37	33	\$370,300	343	\$11,945	
*Kanabec	12,802	53	39	\$355,810	251	\$6,977	
Martin	22,914	72	124	\$335,600	347	\$5,085	
Lyon	24,789	88	116	\$317,210	354	\$4,532	
Watonwan	11,682	42	53	\$316,900	316	\$8,565	
Pipestone	10,491	46	33	\$309,900	256	\$7,559	
Todd	23,363	118	98	\$293,375	210	\$2,643	1
Isanti	25,921	80	129	\$279,650	355	\$3,831	
Wadena	13,154	46	55	\$276,000	299	\$6,273	
*Cottonwood	12,694	43	14	\$275,100	325	\$7,054	
*Waseca	18,079	59	173	\$274,400	341	\$5,177	1
McLeod	32,030	92	271	\$262,302	405	\$3,320	1
*Dodge	15,731	27	72	\$231,750	629	\$9,270	
Yellow Medicine	11,684	35	45	\$190,200	417	\$6,793	
Pope	10,745	71	80	\$188,700	211	\$3,700	
Houston	18,497	61	253	\$185,600	363	\$3,639	
Mahnomen	5,044	35	15	\$183,200	210	\$7,633	
Jackson	11,677	24	55	\$168,650	531	\$7,666	
Cook	3,868	11	3	\$162,425	484	\$20,303	
Hubbard	14,939	58	25	\$160,250	267	\$2,862	
Norman	7,975	37	14	\$156,600	257	\$5,052	
*Big Stone	6,285	33	28	\$134,555	190	\$4,077	
*Murray	9,660	34	27	\$130,600	322	\$4,353	
Lincoln	6,890	27	7	\$125,200	287	\$5,217	
Swift	10,724	31	39	\$123,500	370	\$4,259	
Traverse	4,463	17	14	\$121,600	298	\$8,107	
Kittson	5,767	86	77	\$108,000	85	\$1,588	
Rock	9,806	29	54	\$89,700	377	\$3,450	
*Lake	10,415	47	79	\$89,150	242	\$2,073	
Lac Qui Parle	8,924	15	42	\$49,200	744	\$4,100	
Roseau	15,026	38	9	\$46,000	417	\$1,278	
Clearwater	8,309	73	90	\$45,800	128	\$705	
Wilkin	7,516	14	41	\$2,650	537	\$189	
**Red Lake	4,525	0	0	\$0	0	\$0	
TOTAL		18,997	133,592[†]	\$136,088,441	246	\$7,642	52

*Indicates counties with 100% participation.

**Red Lake County did not have any participating fire departments.

†Total may not equal "other non-fire" run totals due to statistical inconsistencies in elements from the Minnesota Fire Incident Reporting System.

FIRE DEPARTMENT RESPONSES AND DOLLAR LOSS AS REPORTED BY MFIRS DATA

City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss	City	Total Fire Runs	Total Other Runs	Dollar Loss
ADA	9	2	\$59,600	BEAVER CREEK	3	5	\$0	BUYCK COMM VOL	2	0	\$120,000
ADAMS VOL	11	11	\$31,000	BECKER VOL	30	147	\$240,900	BYRON	6	33	\$0
ADRIAN	8	5	\$14,800	BELGRADE	5	3	\$11,500	CALEDONIA	21	20	\$78,300
AITKIN	40	44	\$610,225	BELLE PLAINE	27	54	\$87,781	CALLAWAY	11	0	\$0
ALASKA	9	0	\$139,000	BELLINGHAM	4	22	\$26,200	CALUMET	18	63	\$0
ALBANY	20	79	\$0	BELTRAMI	1	10	\$41,500	CAMBRIDGE	61	62	\$160,250
ALBERT LEA	61	320	\$276,845	BELVIEW	8	1	\$0	*CAMPBELL	0	0	\$0
ALBERT LEA TWP	9	3	\$69,000	BEMIDJI	103	639	\$436,896	CANBY	7	4	\$156,200
ALBORN	8	18	\$10,700	BENSON	15	25	\$26,500	CANNON FALLS	28	132	\$486,800
ALDEN	15	44	\$158,150	BERTHA	13	0	\$0	CANOSIA VOL	7	23	\$103,030
ALEXANDRIA	57	77	\$135,250	BETHEL	8	9	\$83,100	CARLOS	4	60	\$53,000
ALMELUND	14	51	\$70,500	BIG FALLS	1	0	\$20,000	CARLTON VOL	26	37	\$0
ALPHA	1	5	\$0	BIG LAKE	41	78	\$297,500	CARSONVILLE VOL	33	54	\$203,000
ALVARADO VOL	14	23	\$87,500	BIGELOW	1	0	\$0	CARVER	13	85	\$27,150
AMBOY	4	39	\$216,000	BIRCHDALE RURAL	2	0	\$0	CASS LAKE	100	33	\$0
ANDOVER	58	630	\$287,050	BIRD ISLAND	11	1	\$257,500	CENTENNIAL	89	762	\$231,950
ANNANDALE	33	153	\$268,900	BIWABIK VOL	9	2	\$41,300	CENTER CITY	7	3	\$124,800
ANOKA-CHAMPLIN	133	546	\$290,580	BLACKHOOF	9	4	\$0	CENTRAL LAKES VOL	2	0	\$5,000
APPLE VALLEY	105	872	\$1,223,270	BLOMKEST	8	2	\$0	CEYLON	9	0	\$58,800
APPLETON	5	0	\$39,000	BLOOMING PRAIRIE	17	12	\$101,500	CHANDLER	6	11	\$25,100
ARCO	3	1	\$0	BLOOMINGTON	231	1,261	\$950,121	CHANHASSEN	28	658	\$121,450
ARGYLE	12	40	\$15,500	BLUE EARTH	19	55	\$118,200	CHASKA	17	288	\$13,700
ARLINGTON	10	26	\$75,200	BORUP	3	0	\$0	CHATFIELD	16	33	\$21,850
ARROWHEAD	7	19	\$0	BOVEY	17	58	\$10,050	CHERRY TWP	8	21	\$59,100
ASHBY	1	0	\$15,000	BOWLUS	7	0	\$15,500	CHISAGO CITY	15	8	\$0
ASKOV VOL	19	5	\$30,000	BRAINERD CITY	112	316	\$1,350,609	CHISHOLM	54	49	\$567,600
ATWATER	13	2	\$52,200	BRANDON	13	34	\$6,000	CHOKIO	3	0	\$11,200
AUDUBON	20	11	\$71,000	BREITUNG	7	5	\$2,500	CLARA CITY	8	11	\$35,000
AURORA	16	17	\$24,050	BREVATOR	35	27	\$80,000	CLAREMONT	4	2	\$0
AUSTIN	63	215	\$474,106	BREWSTER	7	20	\$24,000	CLARISSA	5	42	\$0
AVON	14	23	\$179,800	BRICELYN	2	0	\$1,000	CLARKFIELD	9	14	\$0
BABBITT VOL	13	30	\$58,300	BRIMSON AREA VOL	4	24	\$0	CLEAR LAKE	16	97	\$62,500
BACKUS VOL	9	6	\$236,000	BROOK PARK	11	1	\$2,800	CLEARBROOK	16	58	\$7,000
BADGER	2	0	\$0	BROOKLYN CENTER	138	608	\$54,650	CLEARWATER	9	52	\$11,000
BAGLEY	41	31	\$0	BROOKLYN PARK	185	1,135	\$891,900	CLEMENTS	4	0	\$14,500
BALATON	11	1	\$18,000	BROOTEN	15	16	\$15,250	CLEVELAND	7	58	\$14,000
BALSAM VOL	9	41	\$5,800	BROWERVILLE	11	9	\$110,000	CLIFTON TWP	7	8	\$73,500
BARNESVILLE	29	14	\$81,000	BROWNSDALE	6	1	\$3,000	CLINTON	5	2	\$75,645
BARNUM VOL	23	57	\$145,650	BROWNSVILLE	6	29	\$1,000	CLINTON VOL	4	1	\$6,000
BAUDETTE	13	0	\$451,100	BROWNTON VOL	9	66	\$5,000	CLOQUET	93	738	\$348,655
BAYPORT	26	253	\$577,450	BRUNO	4	2	\$49,000	COHASSET	37	103	\$106,000
*BEAR CREEK	0	0	\$0	BUFFALO	40	97	\$329,210	COKATO	32	42	\$62,900
BEARDSLEY	3	0	\$0	BUFFALO LAKE	8	1	\$718,500	COLD SPRING	9	8	\$5,830,000
BEARVILLE TWP	8	0	\$1,000	BUHL VOL	4	0	\$100	COLERAINE	12	18	\$0
BEAVER BAY VOL	2	5	\$300	BURNSVILLE	192	2,291	\$824,365	COLOGNE	6	72	\$50,500

<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>
COLUMBIA HEIGHTS	65	1,838	\$353,170	EAST GRAND FORKS	35	476	\$135,673	FREEBORN	2	0	\$540,000
COLVIN TWP	6	2	\$2,000	EAST HUBBARD CO	1	1	\$0	FREEPORT	2	0	\$12,560
COMFREY	4	2	\$17,000	EASTON VOL	6	18	\$26,000	FRENCH TWP VOL	9	5	\$49,600
COOK	23	20	\$140,000	EDEN PRAIRIE	85	1,233	\$1,694,593	FRIDLEY	140	2,146	\$1,054,608
COON RAPIDS	190	3,639	\$891,608	EDEN VALLEY	12	18	\$39,500	FROST	7	1	\$84,000
*CORRELL	0	0	\$0	EDGERTON	8	3	\$15,350	FULDA	10	7	\$87,375
COSMOS	10	20	\$14,000	EDINA	80	3,776	\$228,371	GARRISON	32	102	\$25
COTTAGE GROVE	70	1,400	\$485,120	ELBOW LAKE	13	7	\$65,600	GARVIN	5	1	\$500
COTTON VOL	13	28	\$160,000	ELBOW-TULABY LAKES	10	0	\$36,000	GARY VOL	4	0	\$1,000
COURTLAND	9	28	\$27,000	ELGIN	7	6	\$32,000	GAYLORD	8	6	\$5,225
*COVILL AREA VOL	0	0	\$0	ELIZABETH	7	14	\$17,000	GHEENT	8	10	\$4,800
CROMWELL VOL	9	2	\$68,800	ELK RIVER	102	300	\$189,321	GIBBON	9	5	\$39,000
CROOKED LAKE VOL	4	6	\$5,000	ELLSBURG VOL	7	10	\$5,000	GLENCOE	36	69	\$70,300
CROOKSTON	36	280	\$62,978	ELLSWORTH	4	12	\$10,800	GLENVILLE	5	4	\$196,500
CROSBY VOL	30	36	\$174,500	ELMER	4	0	\$0	GLENWOOD	36	55	\$149,200
CROSSLAKE	2	0	\$75,000	ELMORE	10	2	\$104,600	GNESEN VOL	15	8	\$300,450
CRYSTAL	38	432	\$334,150	ELROSA	3	12	\$2,000	GOLDEN VALLEY	79	591	\$579,053
CULVER	27	8	\$0	ELY	28	17	\$114,000	GOOD THUNDER	5	37	\$17,000
CURRIE VOL	1	0	\$3,000	ELYSIAN	5	39	\$10,000	GOODHUE	14	4	\$124,150
CUYUNA	2	1	\$0	EMBARRASS VOL	13	52	\$2,500	GOODLAND	6	13	\$110,000
DAKOTA	10	1	\$5,000	EMILY VOL	6	7	\$8,100	GOODRIDGE AREA	11	0	\$0
DALBO	19	67	\$119,400	EMMONS	4	29	\$0	GOODVIEW	10	15	\$502,606
DALTON	4	2	\$55,000	ERSKINE	10	34	\$42,000	GRACEVILLE	12	15	\$46,910
DANVERS	5	6	\$55,000	EVANSVILLE	10	51	\$0	*GRANADA	0	0	\$0
DARFUR	4	2	\$0	EVELETH	24	70	\$145,500	GRAND LAKE VOL	28	82	\$93,500
DASSEL	28	153	\$14,785	EXCELSIOR	47	646	\$784,600	GRAND MEADOW	6	1	\$50,000
DAWSON	3	1	\$2,000	EYOTA VOL	6	1	\$91,500	GRAND RAPIDS	95	143	\$1,192,303
DAYTON	19	200	\$9,500	FAIRFAX	9	2	\$190,000	GRANITE FALLS	8	11	\$10,000
DEER CREEK	11	20	\$88,700	FAIRMONT	49	110	\$265,000	GREEN ISLE	3	43	\$0
DEER RIVER	41	42	\$70,238	FALCON HEIGHTS	8	178	\$60,550	GREENBUSH	12	4	\$46,000
DEERWOOD	24	10	\$165,350	FARIBAULT	100	222	\$232,150	GREENWOOD TWP VOL	13	84	\$64,400
DEGRAFF	2	0	\$0	FARMINGTON	43	95	\$270,000	GREY EAGLE	8	0	\$77,175
DELANO VOL	6	7	\$8,100	FAYAL	12	63	\$4,000	GROVE CITY	6	0	\$274,500
DELAVAN VOL	8	0	\$110,000	FEDERAL DAM	1	0	\$0	GUNFLINT TRAIL VOL	5	0	\$162,425
DETROIT LAKES	43	23	\$220,650	FERGUS FALLS	77	110	\$1,107,950	HACKENSACK AREA	6	1	\$105,800
DEXTER VOL	1	0	\$100,000	FINLAND	12	8	\$1,150	HALLOCK	17	25	\$80,000
DILWORTH	14	23	\$0	FINLAYSON	12	44	\$21,060	HALSTAD	5	6	\$5,000
DODGE CENTER	6	8	\$30,500	FISHER	2	0	\$1,700	HAM LAKE	97	431	\$356,950
DONNELLY	4	7	\$20,000	*FLENSBURG	0	0	\$0	HAMBURG	4	45	\$13,000
DOVER	2	0	\$0	FLOODWOOD	1	0	\$140,000	HAMEL	17	170	\$12,920
DOVRAY	3	0	\$625	FOLEY	33	77	\$241,800	HAMPTON	3	0	\$5,000
DULUTH	482	5,637	\$2,979,040	FORADA TWP	8	17	\$42,500	HANCOCK	19	8	\$89,100
DUNNELL-LK FREMONT	6	13	\$3,700	FORESTON	11	44	\$95,000	*HANGAARD TWP	0	0	\$0
EAGAN	137	722	\$801,000	FOUNTAIN	3	7	\$0	HANLEY FALLS	3	0	\$20,000
EAGLE LAKE VOL	0	18	\$0	*FOXHOME	0	0	\$0	HARMONY	9	11	\$73,000
EAGLES NEST	4	1	\$1,400	FRANKLIN	7	0	\$0	HARRIS	30	3	\$37,050
EAST BETHEL	3	33	\$35,000	FREDENBERG	17	32	\$118,000	*HARTLAND	0	0	\$0

<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>
HASTINGS	143	453	\$594,680	KENSINGTON	15	4	\$48,000	LORETTO VOL	17	136	\$0
HAYFIELD	7	32	\$21,500	*KENT/ABERCROMBIE	0	0	\$0	LOWER ST CROIX VLY	28	262	\$634,750
HECTOR	7	11	\$55,000	KERKHOVEN	4	8	\$3,000	LOWRY	5	2	\$0
HENDERSON	5	51	\$116,500	KETTLE RIVER	9	0	\$70,200	LUCAN	4	0	\$169,500
HENNING VOL	14	1	\$57,000	KIESTER	3	1	\$10,500	LUVERNE	22	34	\$87,800
HERMAN VOL	10	0	\$109,250	KILKENNY	7	15	\$85,000	LYLE	5	6	\$4,000
HERMANTOWN VOL	38	82	\$146,601	KIMBALL	17	84	\$942,000	MABEL VOL	7	3	\$15,000
HERON LAKE VOL	7	7	\$10,000	KINNEY-GREAT SCOTT	0	1	\$0	MADELIA	10	12	\$89,000
HEWITT	4	0	\$106,200	LACRESCENT	14	171	\$58,000	MADISON	7	19	\$21,000
HIBBING	86	1,780	\$540,860	LAFAYETTE	9	16	\$30,200	MADISON LAKE	5	57	\$200
HILL CITY	16	24	\$0	LAKE BENTON	12	1	\$60,200	MAHNOMEN	25	15	\$147,200
HILLS	3	15	\$0	LAKE BRONSON	18	10	\$0	MAHTOMEDI	29	488	\$43,505
HINCKLEY VOL	43	28	\$93,500	LAKE CITY	28	38	\$146,700	MAHTOWA	5	10	\$112,000
HITTERDAL	5	1	\$57,000	LAKE CRYSTAL	17	47	\$64,900	MAKINEN	3	0	\$139,049
HOFFMAN	3	0	\$127,400	LAKE ELMO	62	343	\$76,950	MANCHESTER	1	0	\$60,000
HOKAH VOL	3	2	\$0	LAKE GEORGE	8	0	\$19,000	MANKATO	140	1,805	\$750,748
HOLDINGFORD	10	65	\$12,600	LAKE JOHANNA VOL	72	433	\$882,090	MANTORVILLE	4	13	\$14,000
HOLYOKE VOL	1	0	\$15,000	LAKE PARK	8	5	\$33,500	MAPLE GROVE	140	674	\$2,022,620
HOPKINS	44	403	\$149,256	LAKE WILSON	4	1	\$11,500	MAPLE LAKE	37	52	\$92,700
HOUSTON	7	18	\$30,500	LAKEFIELD	6	21	\$133,000	MAPLE PLAIN	27	244	\$105,125
HOVLAND	1	1	\$0	LAKELAND VOL	4	0	\$0	MAPLETON	9	102	\$52,000
HOWARD LAKE	17	55	\$11,150	LAKEVILLE	103	573	\$2,305,888	MAPLEWOOD	95	2,342	\$1,107,730
HOYT LAKES	8	2	\$405,200	LAKEWOOD TWP	11	53	\$32,800	MARBLE	9	32	\$0
HUGO	20	159	\$73,050	LAMBERTON	5	6	\$9,500	MARINE ON ST CROIX	7	33	\$0
IDEAL TWP	7	11	\$4,500	LANCASTER	30	22	\$20,000	MARSHALL	38	74	\$38,810
INDUSTRIAL VOL	8	21	\$0	LANESBORO	10	17	\$895,350	MAYER	8	57	\$1,000
INTERNATIONAL FLLS	39	21	\$793,027	LAPORTE/LAKEPORT	5	0	\$7,600	MAYNARD	6	0	\$21,900
INVER GROVE HGTS	131	803	\$584,700	LE CENTER	15	7	\$279,300	MAZEPPA VOL	1	0	\$40,000
*IONA	0	0	\$0	LEAF VALLEY TWP	6	0	\$200	MC DAVITT	15	19	\$10,037,500
IRONTON	1	0	\$50,000	LESTER PRAIRIE	8	87	\$40,302	MC KINLEY VOL	1	2	\$30,000
ITASCA TWP VOL	1	0	\$0	LESUEUR	26	23	\$372,985	MCGRATH	4	0	\$55,000
IVANHOE	6	0	\$0	LEWISTON	22	18	\$156,000	MCINTOSH	13	33	\$43,500
JACKSON	10	22	\$25,650	LEWISVILLE	1	0	\$10,000	MEADOWLANDS AREA	7	4	\$3,000
JACOBSON	0	3	\$0	LEXINGTON	11	117	\$45,850	MEDFORD VOL	7	43	\$0
JANESVILLE	12	81	\$207,700	LINDSTROM	27	19	\$95,000	MEDICINE LAKE	4	16	\$0
JASPER	7	9	\$14,000	LINWOOD VOL	38	98	\$325,000	MELROSE	23	56	\$650,700
JEFFERS	8	0	\$16,600	LISMORE	6	0	\$0	MENDOTA HEIGHTS	44	283	\$155,260
JORDAN	25	69	\$322,000	LITCHFIELD	26	67	\$41,600	MENTOR	14	43	\$69,000
KABETOGAMA	3	0	\$0	LITTLE CANADA	34	106	\$49,000	MIESVILLE VOL	9	27	\$13,000
KARLSTAD VOL	21	20	\$8,000	LITTLE FALLS	9	0	\$273,600	MILACA	49	36	\$457,601
KASOTA	1	0	\$40,000	LITTLEFORK	15	4	\$140,175	MILAN	3	1	\$43,500
KASSON	5	17	\$105,750	LOMAN RURAL	4	0	\$50,000	MILLERVILLE	10	0	\$21,000
KEEWATIN VOL	18	52	\$958,500	LONDON	3	0	\$24,000	MILROY	5	1	\$20,000
KELLIHER VOL	10	4	\$161,015	LONG LAKE	44	296	\$800,000	MILTONA	1	0	\$150,000
KELLOGG	7	1	\$15,000	LONG PRAIRIE	39	34	\$0	MINNEAPOLIS	2,430	25,187	\$10,774,392
KELSEY VOL	4	0	\$0	LONGVILLE VOL	11	8	\$0	MINNEOTA	11	14	\$225,100
KENNETH VOL	1	0	\$1,900	LONSDALE	17	102	\$65,000	MINNESOTA CITY	8	1	\$0

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MINNESOTA LAKE	1	1	\$0	NORWOOD-YNG AMER	22	169	\$348,765	REMER	9	6	\$41,000
MINNETONKA	88	629	\$994,940	OAK GROVE	49	121	\$77,505	RENVILLE	9	16	\$0
MISSION TWP	6	64	\$7,000	OAKDALE	76	1,198	\$300,375	*REVERE	0	0	\$0
MONTEVIDEO	23	28	\$608,400	ODESSA	3	0	\$12,000	RICE LAKE VOL	22	107	\$6,100
MONTGOMERY	10	21	\$0	ODIN	5	0	\$4,000	RICHFIELD	123	2,946	\$265,686
MONTICELLO	31	194	\$5,500	OGILVIE	16	12	\$97,000	RICHMOND	6	0	\$53,500
MONTROSE	17	99	\$46,600	OLIVIA	11	9	\$200,000	RIDGEWAY COMM	0	20	\$0
MOORHEAD	79	1,900	\$444,131	ONAMIA	23	34	\$2,006,000	ROBBINSDALE	33	180	\$201,396
MOOSE LAKE	29	198	\$92,500	ORONOCO	6	28	\$0	ROCHESTER	229	3,945	\$738,876
MORA	37	27	\$258,810	ORR VOL	8	2	\$0	ROCHESTER-RURAL	119	834	\$525,025
MORGAN	16	0	\$629,600	ORTONVILLE	10	11	\$0	ROCKFORD	20	228	\$212,900
MORRIS	11	18	\$250,000	OSAKIS	20	11	\$100,250	ROCKVILLE	15	81	\$22,000
MORRISTOWN	23	3	\$179,000	OSLO	2	0	\$70,700	ROGERS	34	233	\$258,100
MORSE TWP VOL	12	5	\$42,000	OSSEO	4	0	\$161,000	ROLLINGSTONE	9	0	\$235,750
MORTON	5	0	\$10,000	OSTRANDER	5	0	\$1,700	ROSE CREEK AREA	5	0	\$63,000
MOTLEY	22	88	\$182,000	OTTERTAIL	9	0	\$52,000	ROSEAU	24	5	\$0
MOUND	47	760	\$316,160	OWATONNA	72	228	\$502,232	ROSEMOUNT	36	221	\$37,900
MOUNTAIN IRON	18	32	\$473,000	PALISADE VOL	13	0	\$0	ROSEVILLE	67	578	\$216,381
MOUNTAIN LAKE	2	0	\$43,000	PALO REGIONAL	14	59	\$6,850	ROTHSAY	11	41	\$2,650
MPLS/ST PAUL AIRPRT	42	2,374	\$31,200	PARK RAPIDS	44	24	\$133,650	ROYALTON	13	5	\$0
MYRTLE	2	0	\$9,500	PARKERS PRAIRIE	12	2	\$43,700	RUSH CITY	22	27	\$75,000
NASHWAUK	18	27	\$12,200	PAYNESVILLE	27	5	\$85,450	RUSHFORD	18	32	\$915,150
NASSAU	1	0	\$0	PEMBERTON	2	13	\$0	RUSHMORE	9	3	\$310,500
NERSTRAND VOL	4	1	\$30,000	*PEQUAYWAN LK AREA	0	0	\$0	RUTHTON	4	0	\$600
NEW BRIGHTON	64	291	\$300,950	PEQUOT LAKES	25	22	\$345,500	SABIN-ELMWOOD	8	13	\$161,150
NEW GERMANY	9	48	\$0	PERCH LAKE VOL	17	37	\$9,000	SACRED HEART	8	2	\$39,000
NEW HOPE	30	267	\$27,325	PERHAM	35	59	\$412,330	SANBORN	4	2	\$7,000
NEW LONDON	37	41	\$722,600	PICKWICK AREA	3	1	\$0	SANDSTONE VOL	18	13	\$236,000
NEW MARKET	23	131	\$31,500	PIERZ	26	15	\$261,900	SARTELL	25	52	\$5,955
NEW MUNICH	3	11	\$1,000	PIKE-SANDY-BRITT	21	3	\$70,501	SAUK CENTRE	37	27	\$194,200
NEW PRAGUE	27	66	\$228,100	PILLAGER AREA	17	78	\$198,500	SAUK RAPIDS	46	103	\$1,132,200
NEW RICHLAND	2	1	\$3,700	PINE ISLAND	19	149	\$48,616	SAVAGE	61	266	\$91,960
NEW SCANDIA	22	120	\$44,750	PINE RIVER	16	9	\$23,000	SCANDIA VALLEY	11	2	\$3,750
NEW ULM	21	89	\$234,952	PIPESTONE	21	19	\$269,200	SCHROEDER	2	1	\$0
NEW YORK MILLS	22	9	\$138,900	PLAINVIEW	22	19	\$810,000	SEAFORTH	1	0	\$0
NEWFOLDEN	27	10	\$14,000	PLATO	14	30	\$49,100	*SEDAN	0	0	\$0
NEWPORT	34	269	\$27,600	PLYMOUTH	127	927	\$637,050	SHAFER	15	5	\$3,500
NICOLLET	23	64	\$400,800	PORTER	5	15	\$2,000	SHAKOPEE	60	280	\$178,221
NODINE VOL	8	23	\$36,100	PRINCETON	96	155	\$132,800	SHELLY	5	2	\$1,500
NORMANNA VOL	9	2	\$185,000	PRINSBURG	5	2	\$85,000	SHERBURN	6	1	\$1,600
NORTH BRANCH	39	45	\$1,067,500	PRIOR LAKE	11	246	\$253,500	SHEVLIN	15	1	\$38,800
NORTH MANKATO	19	102	\$48,850	PROCTOR	19	38	\$27,600	SILICA AREA	1	7	\$0
NORTH ST PAUL	30	222	\$191,560	RAMSEY	62	249	\$2,212,250	SILVER BAY	17	22	\$29,700
NORTH STAR TWP	0	6	\$0	RANDALL	19	4	\$82,000	SILVER LAKE	13	19	\$46,100
NORTHFIELD	61	66	\$322,800	RANDOLPH	7	13	\$71,000	SKYLINE	1	0	\$0
NORTHLAND	3	0	\$40,050	RED WING	90	396	\$830,371	SLAYTON	10	8	\$3,000
*NORTHROP	0	0	\$0	REDWOOD FALLS	31	20	\$840,500	SLEEPY EYE	4	0	\$497,000

<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>	<u>City</u>	<u>Total Fire Runs</u>	<u>Total Other Runs</u>	<u>Dollar Loss</u>
SOLWAY TWP	13	44	\$0	TAUNTON	4	0	\$0	WAVERLY	4	36	\$0
SOUTH BEND	5	28	\$28,000	TAYLORS FALLS	12	2	\$180	WAYZATA	31	268	\$7,000
SOUTH HAVEN	19	17	\$23,000	THIEF RIVER FALLS	59	96	\$367,465	WELLS	13	22	\$32,500
SOUTH ST PAUL	142	1,340	\$141,335	THOMPSON TWP	19	113	\$112,750	WENDELL	8	12	\$242,000
SPICER	19	19	\$219,000	TOFTE	3	1	\$0	WEST CONCORD	1	0	\$60,000
SPRING GROVE	10	13	\$17,800	TOWER	1	1	\$20	WEST METRO FIRE	31	333	\$25,200
SPRING LAKE PARK	227	855	\$847,750	TRACY	11	16	\$30,000	WEST ST PAUL	107	421	\$221,910
SPRING VALLEY	11	28	\$124,000	TRIMONT	1	0	\$500	WESTBROOK	12	1	\$8,700
SPRINGFIELD VOL	14	11	\$194,502	TRUMAN	1	0	\$6,000	WHEATON	17	14	\$121,600
SQUAW LAKE	5	9	\$0	*TWIN LAKES	0	0	\$0	WHITE BEAR LAKE	99	478	\$583,820
ST ANTHONY	26	797	\$82,573	TWIN VALLEY	11	4	\$89,500	WILLIAMS	2	0	\$22,000
ST BONIFACIUS	12	149	\$645,500	TWO HARBORS	16	44	\$58,000	WILLMAR	50	223	\$308,127
ST CHARLES	10	11	\$5,000	TYLER	6	5	\$65,000	WILLOW RIVER	14	11	\$110,000
ST CLAIR	6	69	\$1,300	ULEN	8	1	\$2,700	WILMONT	1	0	\$1,000
ST CLOUD	260	1,131	\$3,815,559	UNDERWOOD	18	37	\$126,150	WILSON VOL	6	14	\$0
ST FRANCIS	34	246	\$251,500	UPSALA	4	5	\$0	WINDOM	18	12	\$94,300
ST HILAIRE	9	45	\$103,545	VADNAIS HEIGHTS	41	541	\$28,200	WINGER	1	1	\$0
ST JAMES	22	39	\$213,900	VERMILLION LAKE	8	8	\$11,200	WINNEBAGO VOL	13	27	\$16,850
ST JOHN'S UNIVRSITY	5	40	\$1,500	VERNDAL	19	46	\$276,000	WINONA	80	1,402	\$586,137
ST JOSEPH VOL	30	191	\$172,000	VESTA	5	2	\$2,550	*WINSTED	0	0	\$0
ST LEO	3	1	\$0	VICTORIA	18	194	\$435,125	WINTHROP VOL	9	5	\$142,500
ST LOUIS PARK	189	3559	\$690,885	*VILLARD VOL	0	0	\$0	WOLF LAKE	15	2	\$48,800
ST MARTIN	10	9	\$89,000	VINING	5	0	\$0	WOLVERTON	3	0	\$0
ST MICHAEL	2	0	\$80,000	VIRGINIA	40	2,159	\$132,400	WOODBURY	81	1,652	\$711,550
ST PAUL	1,403	11,421	\$5,934,139	WABASHA	18	47	\$152,000	WOODSTOCK	6	2	\$10,750
ST PAUL PARK VOL	20	80	\$220,600	WABASSO VOL	6	1	\$0	WORTHINGTON	25	31	\$43,820
ST PETER	48	46	\$198,625	WACONIA	15	290	\$34,150	WRENSHALL	14	43	\$0
ST STEPHEN	10	67	\$1,226	WADENA	27	9	\$0	WRIGHT VOL	2	0	\$0
STACY-LENT	45	23	\$282,920	WAITE PARK	34	63	\$243,300	WYKOFF	1	2	\$0
STAPLES	38	13	\$0	WALDORF	9	9	\$28,000	WYOMING	34	104	\$12,600
STARBUCK	30	23	\$39,500	WALNUT GROVE	7	2	\$14,450	ZIMMERMAN	41	45	\$97,000
STEPHEN	6	7	\$45,000	WALTERS VOL	2	0	\$1,600	ZUMBRO FALLS	20	75	\$41,250
STEWART	12	0	\$51,500	WANDA	2	0	\$2,500				
STEWARTVILLE	29	29	\$154,180	WARBA-FEELEY-SAGO	2	0	\$0				
STILLWATER	58	689	\$285,451	WARREN	21	22	\$230,900				
STORDEN	3	1	\$112,500	WASECA	36	82	\$35,000				
STURGEON LAKE	21	3	\$0	WATERTOWN	30	244	\$207,175				
SUNBURG	7	0	\$150,000	WATERVILLE	12	108	\$77,000				
SWANVILLE	2	0	\$0	WATKINS	12	17	\$27,750				
TACONITE	2	0	\$3,000	WATSON	5	0	\$39,950				

*These fire departments reported as having no fire/nonfire runs for 1998.

NON-REPORTING FIRE DEPARTMENTS

ALBERTVILLE	ELLENDALE VOL	KANDIYOHI	PENNOCK
ALTURA	EVERGREEN	KENNEDY	PERLEY-LEE TWP
BARRETT	FELTON COMM	KENYON	PINE CITY
BATTLE LAKE	FERTILE	KERRICK	PLUMMER
BIGFORK VOL	FIFTY LAKES	LAKE HENRY	PRESTON
BIWABIK TWP VOL	FOREST LAKE	LAKE LILLIAN	RAYMOND
BLACKDUCK	FOSSTON	LASALLE	RED LAKE
BLUFFTON	FRAZEE	LE ROY	RED LAKE FALLS
BOIS FORTE	GARFIELD	LOUISBURG	RICE
BOYD	GENEVA	LUTSEN TWP VOL	ROCHESTER AIRPORT
BRAHAM	GILBERT	LYND	ROUND LAKE
BRECKENRIDGE	GLYNDON VOL	MAGNOLIA	RUSSELL
BROWNS VALLEY	GONVICK	MAPLE HILL	SCANLON VOL
BUTTERFIELD	GRAND MARAIS VOL	MAPLEVIEW	SEBEKA
CANTON	GRAND PORTAGE	MARIETTA	SOLWAY
CLARKS GROVE VOL	GREANEY-RAUCH-SILVERDLE	MCGREGOR VOL	STURGEON TWP
CLIMAX	GRYGLA	MENAGHA	TINTAH
CLONTARF	HANOVER	MIDDLE RIVER	TOIVOLA TWP
CONGER	HANSKA	MURDOCK	TWIN LAKES VOL
COTTONWOOD	HARDWICK	NETT LAKE	VERGAS
CRANE LAKE	HAWLEY	NEVIS	VERNON CENTER
CYRUS	HAYWARD	NEW AUBURN	WALKER
DANUBE	HENDRICKS	NIELSVILLE	WANAMINGO
DENNISON	HENDRUM	NISSWA	WARROAD
DENT	HIDDEN VALLEY	NORTHOME	WAUBUN
DUMONT	HOLLAND	OGEMA	WELCOME
DUNDEE	HOLLANDALE	OKABENA	WHITE EARTH VOL
EAGLE BEND	HUTCHINSON	OKLEE	WOODLAKE
ECHO	ISANTI VOL	ORMSBY	ZUMBROTA
EITZEN	ISLE	PELICAN RAPIDS VOL	

STATE FIRE MARSHAL ANNUAL REPORT



TO: All Minnesota Fire Chiefs, Fire Service, State and Local Officials

FROM: Thomas R. Brace, Minnesota State Fire Marshal *TRB*

SUBJECT: State Fire Marshal Division – Annual Report 1998

Fire in Minnesota 1998 represents our tenth year of publishing our annual report. Ten years ago 66% of Minnesota Fire Departments reported to the MFIRS System. Today we have 85% participation, a definite improvement, but our goal is still 100% participation. To obtain a true picture of the fire problem in Minnesota we need *every* fire department to participate; this would enable us to focus on real fire problems rather than perceived problems.

Our office expects to implement the new MFIRS 5.0 software in the fall of 1999. This new system, released by the U.S. Fire Administration, will collect more detailed, valuable statistics to assist us in analyzing the state and national fire problem. Our office plans to conduct 5.0 training throughout the state; we will make every effort to make this a smooth transition for all departments and will have staff available to answer your specific questions.

Legislation passed in 1997 had quite an impact on our Division in 1998. Newly created positions included:

- Arson Prevention Trainer – Denise DeMars coordinates the BCA Fire/Arson courses offered to law enforcement and fire service personnel. Continuing course development for county prosecutors, fire scene preservation and recognizing arson is also provided.
- Juvenile Firesetter Interventionist – Dan Bernardy was hired in the spring of 1998 to fill this position. Regional task forces are being developed to provide the necessary components for successful intervention.
- Fire Protection Systems (Sprinkler Program) – this inspector position was filled by Ralph Peterson in 1998. This position was created to inspect installations, investigate complaints and provide education and information to the sprinkler industry, public officials and the public.
- Arson Data Specialist – this position, filled in October 1998, and held by Ernie Scheidness, administers and maintains a computerized arson investigation data system for assisting criminal justice agencies in the investigation and prosecution of suspected arson violations.

The Welfare Reform/Day Care positions, funded by an interagency agreement with the Department of Human Services, which provided two-day care inspectors, was not extended by the 1999 Legislature. As a result, these inspector positions were eliminated June 30, 1999.

An updated version of the Minnesota Uniform Fire Code was adopted in 1998. Fire Code training is being offered in the fall of 1999.

Reflecting on the past ten years there have been many changes, in programs and staff, at the State Fire Marshal Division. One mission remains unchanged throughout the years, the dedicated staff at the State Fire Marshal Division continues to serve the citizens of Minnesota to protect lives and property from fire. We hope you find *Fire in Minnesota 1998* a valuable tool for defining the fire problem in your area. We look forward to working with you to reduce the overall fire problem in Minnesota. For updated news and information from our Division, please contact us at our web site: www.dps.state.mn.us/.

BRIEF HISTORY OF THE STATE FIRE MARSHAL DIVISION

- 1905** Legislation authorizing Governor to appoint State Fire Marshal for two-year term. Funding through tax levy on Insurance companies. (Town Mutuals Exempt)
- 1907** Amendment authorizing two deputy State Fire Marshals. Authorization to pay fire departments \$1 for reports submitted to the State Fire Marshal.
- 1913** All former acts repealed and new State Fire Marshal Department was created. Governor appointed Fire Marshal and two deputies.
- 1919** The Appointing Authority was given to the Commissioner of Insurance.
- 1925** Legislative action made the Commissioner of Insurance the Ex-Officio State Fire Marshal.
- 1937** Tax levy to fund the State Fire Marshal Department was raised to ½% of all insurance premiums to include Town Fire Insurance Company and Farmers Mutuals.
- 1941** Legislature directed all monies collected by the State Fire Marshal for tax and license fees, etc., to be turned over to the General Fund. Fire Marshal Department to be operated under an appropriation by legislative action.
- 1969** Legislative action created a Department of Public Safety.
- 1970** The State Fire Marshal Department moved into the Department of Public Safety to be known as the State Fire Marshal Division (SFMD).
- 1975** Legislature authorized adoption of the Minnesota Uniform Fire Code (MUFC).
- 1978-79** Legislative action enabled local fire departments to enforce the MUFC without local adoption.
- 1978** Ten positions added to implement hotel/motel/resort inspection program.
- 1980** Minnesota is the first state in the nation to require smoke detectors in new and rental residential properties.
- 1989** 1988 MUFC was adopted. Three more positions were added to the SFMD: Two day care inspectors and one public educator/data.
- 1990** Legislation added five new positions to the SFMD to conduct school inspections in Minnesota.
- 1992** New program added to license fire sprinkler contractors, designers, and fitters. New program to develop operation of Hazardous Material Response Teams.
- 1993** Legislative action updated arson statutes. Legislation requires a smoke detector in every dwelling.
- 1995** Licensing of operators of public fireworks displays. One fire investigator position added.
- 1996** The Attorney General formed a task force to study the crime of arson in Minnesota. The Division received a grant of \$400,000 to study arson as it relates to the criminal or abusive use of alcohol and/or drugs.
- 1998** As a result of the Arson Task Force, two new positions were added to the SFMD: One arson investigation trainer and one juvenile firesetter interventionist.
- 1998** One inspector for the Fire Protection Team was added to start July 1, 1998.
- 1998** Legislature approved the position of arson data specialist to begin the next fiscal year.

STATE OF MINNESOTA
DEPARTMENT OF PUBLIC SAFETY
STATE FIRE MARSHAL DIVISION

COMMISSIONER
CHARLES R. WEAVER, JR.

DEPUTY COMMISSIONER
MANCER MITCHELL

STATE FIRE MARSHAL
TOM BRACE

Connie Weaver
OFFICE
MANAGER

Jon Nisja
BUREAU CHIEF
INSPECTIONS & CODE
DEVELOPMENT

Bob Dahm
BUREAU CHIEF
INFORMATION, LICENSING
& REGULATIONS

David Bahma
BUREAU CHIEF
RESPONSE SERVICES

Patricia Bell
SUPERVISOR
SUPPORT

Robert Imholte
SUPERVISOR
SCHOOL/
DAY CARE
INSPECTIONS

Roger Jemming
SUPERVISOR
RESIDENTIAL
INSPECTIONS

Patrick Sheehan
SUPERVISOR
HEALTH CARE
INSPECTIONS

CODE
SPECIALISTS

David Stegura
SUPERVISOR
SPRINKLER
LICENSING

PUBLIC
EDUCATION

DATA
ANALYSIS

HAZARDOUS
MATERIALS

INVESTIGATIONS

SUPPORT
STAFF
(5)

FIRE SAFETY
INSPECTORS
(6)

FIRE SAFETY
INSPECTORS
(9)

FIRE SAFETY
INSPECTORS
(7)

DEPUTY STATE
FIRE MARSHALS
(2)

PLAN
REVIEWERS/
INSPECTOR
(3)

JUVENILE
FIRESETTER
INTERVENTIONST
(1)

FIRE/DATA
INFORMATION
(3)

HAZ MAT
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(1)

FIRE/ARSON
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Four vacancies at the time of printing.

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Education continues to be a priority for the fire/arson investigator team.

FIRE/ARSON INVESTIGATION TEAM

The fire/arson investigation unit, headed by Bureau Chief David Bahma, consists of twelve investigators, one trainer and one arson data specialist. Investigation deputies are subject to call 24 hours a day, 7 days a week and work from their home offices in their assigned territories.

Three new positions, created by the 1997 legislature and funded in 1998 are briefly summarized below.

- The arson data specialist (pointer system) position was filled in October 1998. This position serves as the department expert who administers and maintains a computerized arson investigative data system for assisting criminal justice agencies in the investigation and prosecution of suspected arson violations. This established "pointer" system provides links to detailed information maintained by local criminal justice agencies, provides administrative expertise relative to fire arson investigation reports, interviews, statistical data and report analysis regarding arson investigation.
- A full-time juvenile firesetter interventionist was hired in 1998. This person works closely with the fire/arson investigation team and provides the Division with valuable tools and resources to address the increasing juvenile firesetting behavior problems.
- A full-time trainer coordinates the Bureau of Criminal Apprehension Fire/Arson courses offered to law enforcement and fire service personnel. On-going training and continuing course development for county prosecutors, fire scene preservation and recognizing arson is also provided.

The gas chromatograph/mass spectrometer purchased for the BCA Lab, by the Fire Marshal Division in 1998, along with one additional forensic scientist has greatly reduced the time involved in analyzing evidence taken from fire scenes. Evidence has been returned to us in as little as 10 days, which certainly benefits our Division, and ultimately benefits the insurance companies and others.

Arson has become the leading cause of structure fires in 1998; cooking and heating are the other two most common causes. Arson fires represent 17% of all structure fires and 9% of residential fires. Total fires investigated in 1998 decreased from the previous year; arson fires increased by 7% and represent a dollar loss in excess of nine million dollars. Today's investigations are much more in-depth than they were several years ago. This results in a growing number of successful prosecutions. We continue to try to keep up with breaking edge technology in our ongoing effort to provide the fire service and law enforcement with the highest quality of investigation possible.

Arson became the leading cause of structure fires in 1998.

State Fire Marshal investigators assisted fire officials and law enforcement agencies by investigating 532 fires in 1998, which resulted in nearly \$80 million in property loss, an increase in dollar loss by 23%! Of the 532 fires investigated, 214 were determined to be arson. Total fires investigated in 1998 are down from 1997, but arson fires continue to increase.

FIRE/ARSON INVESTIGATIONS BY PROPERTY TYPE

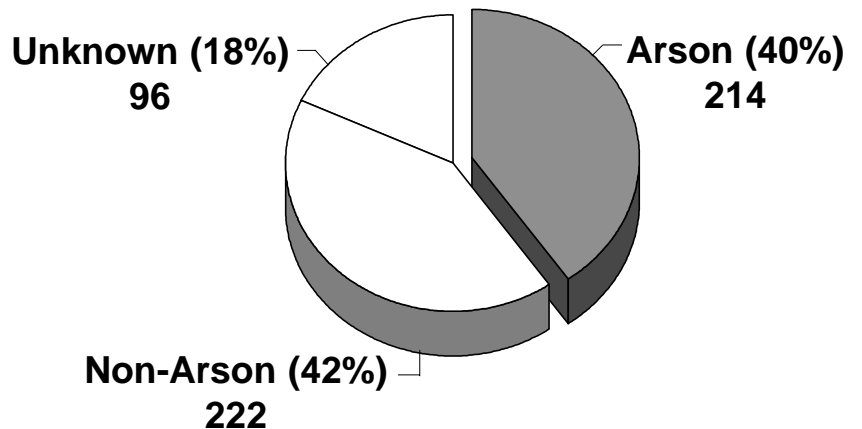
	<u>1996 Causes</u>		<u>1997 Causes</u>		<u>1998 Causes</u>			
	<u>Total Fires</u>	<u>Total Arson</u>	<u>Total Fires</u>	<u>Total Arson</u>	<u>Total Fires</u>	<u>Total Dollar Loss</u>	<u>Total Arson</u>	<u>Arson Dollar Loss</u>
One/Two Family Dwellings	371	111	338	100	313	\$23,664,872	114	\$5,273,600
Apartment	35	10	23	9	20	5,055,000	4	395,000
Hotels/Motels/Resorts	2	0	8	4	6	120,000	2	23,000
Institutional	0	0	6	3	7	45,000	4	38,000
Educational	7	3	2	1	7	508,010	5	206,010
Places of Assembly	15	6	14	8	8	756,000	4	161,000
Restaurants	6	1	9	5	11	3,357,000	6	702,000
Retail/Office	28	7	30	9	23	3,515,600	11	1,422,600
Industrial/Manufacturing	21	2	16	5	17	14,490,100	2	100
Agricultural	9	0	14	1	9	1,213,000	0	0
Storage Facilities	86	20	66	18	60	5,440,150	26	825,650
Special Structures/Other	12	8	17	15	13	20,223,500	8	200,500
Mobile/Vehicle Property	41	18	38	22	38	1,446,700	28	375,400
TOTAL	636	188	582	200	532	\$79,834,932	214	\$9,622,860

Over \$9 million in property loss is attributed to arson in 1998. While the number of vehicle fires remained the same in 1998, arson vehicle fires increased by 27%. Dollar loss for those fires increased 92%! Time spent on each case is increasing; advanced technology and more in-depth investigations allow for a full effort to increase the number of arson convictions.

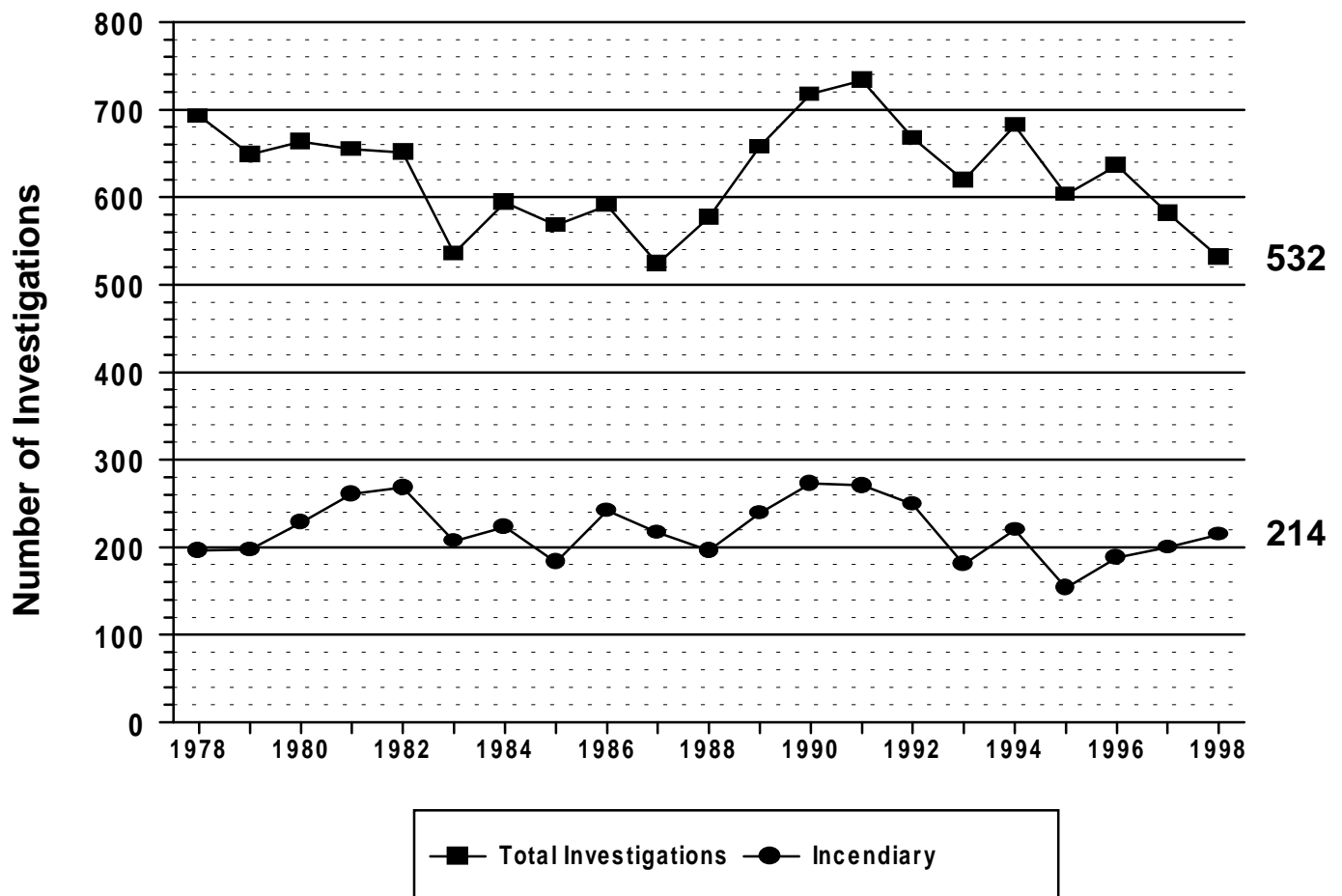
1998 Fire Investigation Accidental vs. Incendiary

Breakdown of Arson Investigations:

	Arson	Non-arson	Unknown	Total
Structure	186	214	94	494
Vehicle	28	8	2	38
Total	214	222	96	532



Fire Investigation 1978 - Present



*16,026 violations were
found in 7,872
inspections in 1998.*

FIRE SAFETY INSPECTIONS

Deputy State Fire Marshal-Inspectors conducted a total of 7,872 inspections and follow-up inspections in 1998.

SFMD FIRE SAFETY INSPECTIONS 1998, BY TYPE OF OCCUPANCY

	<u>No. of Facilities</u>	<u>No. of Follow-ups</u>	<u>No. of Bldg. Inspections</u>	<u>No. of Orders</u>	<u>No. of Violations</u>
<u>CHILD CARE</u>					
Family child care	1,764	315	1,765	256	7,266
Foster child care	517	151	520	116	2,089
Child care centers	87	31	87	16	294
	<u>2,368</u>	<u>497</u>	<u>2,372</u>	<u>388</u>	<u>9,649</u>
<u>LICENSED HEALTH CARE FACILITIES</u>					
Nursing homes	559	122	576	16	203
Supervised living facilities >7	222	47	239	13	86
Adult foster care facilities	456	30	458	36	1,594
Class B nursing homes	44	8	46	9	34
Supervised living facilities <6	92	11	92	3	8
Group homes	3	0	3	0	8
Adult day care facilities	20	4	20	1	36
	<u>1,396</u>	<u>222</u>	<u>1,434</u>	<u>78</u>	<u>1,969</u>
<u>HOTELS/MOTELS/RESORTS</u>					
Resorts	355	489	482	232	1,147
Motels	298	264	317	180	857
Hotels	142	172	149	86	528
	<u>795</u>	<u>925</u>	<u>948</u>	<u>498</u>	<u>2,532</u>
<u>RESIDENTIAL</u>					
Boarding/Lodging	70	34	78	18	222
Apartments	27	52	31	13	118
One/two family dwellings	16	13	16	6	54
Dormitories	25	15	32	10	102
	<u>138</u>	<u>114</u>	<u>157</u>	<u>47</u>	<u>496</u>
<u>MEDICAL FACILITIES</u>					
Hospitals	50	16	57	5	29
Surgical centers	13	0	13	0	4
	<u>63</u>	<u>16</u>	<u>70</u>	<u>5</u>	<u>33</u>
<u>EDUCATIONAL FACILITIES</u>					
Schools	282	523	282	60	571
<u>COMMERCIAL</u>					
Public assembly	29	23	29	18	111
Offices	39	23	41	10	89
Restaurants	12	6	12	4	3
Industrial/Manufacturing	20	17	21	9	88
Service stations	2	8	2	1	1
Retail	15	15	16	9	53
	<u>117</u>	<u>92</u>	<u>121</u>	<u>51</u>	<u>345</u>
<u>OTHER PROPERTY</u>					
Flammable/Combustible liquid	132	69	132	87	203
Prisons/Jails	49	27	133	26	222
Special properties	4	0	4	1	0
Special structures	1	0	1	0	0
Storage	3	0	5	0	0
L.P. facilities	6	1	6	2	1
Other properties	21	11	21	5	5
	<u>216</u>	<u>108</u>	<u>302</u>	<u>121</u>	<u>431</u>
TOTAL INSPECTIONS	5,375	2,497	5,686	1,248	16,026

FIRE AND LIFE SAFETY INSPECTION

- **Residential Team**

The Residential Inspection Team is responsible for fire safety inspections in three main areas. First, hotels and motels are mandated by statute to be inspected at least once every three years; resorts, by Division policy, are inspected at least once every four years. Initial fire and life safety inspections are also conducted for the Department of Health prior to the licensing of bed and breakfast facilities.

A second major responsibility is the inspection of day care and foster care facilities for initial licensure by the Department of Human Services. The day care/foster care field experiences a high turnover rate, which results in many new facilities to be inspected each year. Because of the elimination of funding by the Department of Human Services for two day care inspector positions, additional inspection requests have been assigned to the remaining staff. This additional workload has increased inspection response time.

Finally, the residential inspectors respond to the majority of referral inspection requests and complaints regarding life safety. These mandates include inspections within all 87 counties of the State of Minnesota. The Residential Inspection Team consists of Supervisor Roger Jemming and nine Deputy Fire Marshal Inspectors, who are stationed throughout the state.

Despite the recurring cycle of mandatory inspections and the ever-increasing workload, the Residential Team continues its efforts to keep current and to provide a timely response to requests for new day care/foster care inspections.

By request, this team also inspects a majority of county jails within the state, as well as inspecting aboveground tank dispensing operations for compliance with the Minnesota Uniform Fire Code (MUFC). Various types of other properties are inspected at the request of local or county authorities; the team acts as consultants to property owners, architects, contractors, public officials and the general public regarding the requirements of the MUFC.

During 1998, the Residential staff inspected approximately 3,758 buildings and issued 1,096 orders.

- **Health Care Team**

The Health Care Section of the State Fire Marshal Division has the responsibility for conducting annual fire and life safety inspections in 1,150 health care facilities licensed by the Minnesota Department of Health, as well as approximately 100 residential group homes licensed by the Minnesota Department of Human Services. In addition, the Health Care Team is responsible for inspecting, on a one-time-only basis, adult day care, adult foster care, and developmental achievement centers. When necessary, the Health Care Section also assists the residential team with inspections of home-based day care facilities.

The vast majority of residential inspections are for day care and child care facilities.

Every hospital, health care facility, and licensed residential group home in Minnesota is inspected annually.

As the trends in all areas of health care change, so do the types of facilities change to provide this care. In 1998, the health care section saw an increase in the residential types of facilities for persons with Alzheimer's disease, and a new category of facilities called Residential Hospice. While still few in number, Residential Hospices are intended to provide a less institutional and quieter, more peaceful environment for those who have been diagnosed as terminally ill.

1998 was also the year in which the Faribault Regional Treatment Center for the mentally handicapped was finally and completely phased out and the campus totally taken over by the Department of Corrections as a correctional facility. Many new corporate-operated, small residential facilities for the mentally handicapped are being established as an alternative to the large, state-run institutional facilities of the past.

The Health Care Section includes Supervisor Patrick Sheehan and one clerical staff person in the headquarters office, and seven Deputy State Fire Marshal Inspectors located throughout the state.

The Health Care Team enforces the Minnesota Uniform Fire Code (MUFC) as a part of the Minnesota Department of Health licensing requirements for health care facilities. This team also enforces the fire safety requirements of the Federal Health Care Financing Administration for those hospitals, nursing homes, and supervised living facilities that receive Medicare/Medicaid reimbursement for the patients and residents of these facilities. These federal inspections are conducted under a contract with the Department of Health which administers the federal enforcement program in Minnesota.

In addition to inspection duties, the health care inspectors regularly provide fire safety inservice training to facility staff, give presentations at health care associations' conferences, and provide demonstrations on sprinkler systems using the fire sprinkler demonstration trailer that is now owned by the State Fire Marshal Division.

In 1996, the responsibility for inspecting state-owned prisons was added to the Health Care Section. With 10 state-owned correctional facilities, one privately owned facility, and one additional state-owned prison now nearing completion, these facilities were put on a rotating schedule that includes one prison facility inspection each month. Throughout 1998, this additional work was performed by one inspector specifically assigned to inspect these facilities. Other health care inspectors helped with health care inspections in his territory, to allow sufficient time for the prison inspections. The inclusion of prison inspections in the Health Care Section has proved to be a positive change, with the key to its continued success being the teamwork of the health care inspectors and the health care section secretary.

During 1998, the Health Care Team inspected 1,504 buildings in 1,459 hospitals and health care facilities, as well as buildings in the eleven prison facilities.

PUBLIC SCHOOL INSPECTION PROGRAM

School inspections revealed 571 fire code violations in 282 schools in 1998.

The Public School Inspection Program completed eight years of operation in 1998. This program, established by the state legislature in 1990, requires the State Fire Marshal to inspect each of the state's roughly 1,500 public schools once every three years. Included in this mandate are all of the state's public elementary, middle/junior high and high schools, charter schools, and area learning centers.

The primary focus of this program is to eliminate the fire and life safety violations found in many of the public schools. Emphasis is placed on the fire/life safety of the school's occupants: students, teachers, other staff and community members. Because of the age, construction, and use of many of the state's school buildings, policies were developed which allow the installation of automatic fire protection systems (primarily automatic sprinklers and automatic fire alarms) as alternatives to correct many of the fire and life safety problems found in these buildings. Because of the expenses associated with major construction or remodeling projects, many school buildings are being "retroactively" equipped with automatic sprinkler systems and automatic fire alarms. Over 40 percent of the state's public schools have already installed automatic sprinkler protection in at least a portion of the building. This percentage should go up significantly as more school districts correct cited violations by installing sprinklers, and as sprinklers are included in new construction.

The Public School Inspection Program is staffed by Robert Imholte, field supervisor, three field deputies, a plan reviewer and a part-time clerical support person. The plan review and clerical support functions operate out of the Division's St. Paul headquarters office. This staff works closely with the Minnesota Department of Children, Families and Learning (formerly the Department of Education), which controls funding for many school facility upgrades and safety improvements.

The 1990 legislation also allowed fire departments who had been inspecting the schools within their jurisdictions to continue their inspection programs under contract with the State Fire Marshal. In 1998, 20 fire departments contracted to conduct their own school inspections; 168 schools were inspected under these contracts.

In the 1998-99 school year, there were 347 school districts in the state and 39 charter schools. These school districts serve over 844,000 students in grades K through 12. In addition, there are some 52,400 teachers. With support personnel and community usage of school buildings added in, the school inspection program affects the fire/life safety of well over a million persons.

In 1993 the State Fire Marshal Division entered into the original contract with the Department of Education (now known as the Minnesota Department of Children, Families and Learning) for conducting plan reviews on school projects that exceeded \$10,000.00. The Division's plan reviewer is responsible for checking plans for construction or remodeling of existing buildings to ensure that the code requirements are met, that outstanding violations are corrected,

and that state dollars are used effectively. For new construction, plans for fire alarm and sprinkler system installations are reviewed and plans are also checked to ensure that the fire department access and water supply requirements of the code are met. In 1998, 181 school plans were reviewed. The plan reviewer maintains a close working relationship with the State Building Codes and Standards Division and spends many hours each week serving in a consultant capacity to school district officials, architects and contractors in the areas of building and fire codes.

Follow-up inspections have confirmed that roughly 85 percent of the schools inspected throughout the state by State Fire Marshal staff have complied with the orders issued against them during the first round of inspections. Many others have plans of correction in place that will bring them into compliance in the coming year. While there will still need to be a lot of time devoted to follow-up inspections, it is expected that 1999 will see the program focus change to inspection of newly constructed buildings and the commencement of the second round of inspections of existing buildings.

CODE DEVELOPMENT/PLAN REVIEW

The Code Development/Plan Review Section of the State Fire Marshal Division is staffed by two Deputy State Fire Marshal – Fire Protection Specialists. One of these two deputies is also a registered Fire Protection Engineer. These positions provide consultation and technical assistance in matters related to fire safety to local/state fire and building officials, property owners/managers, architects, engineers, contractors and the general public. In an average month, the fire protection specialists handle over 500 requests for information regarding fire safety statutes, fire code requirements, and fire-safe practices.

The fire protection specialists also conduct plan reviews of certain types of hazardous installations, particularly aboveground fuel storage tanks and liquefied petroleum (LP) gas installations. In 1998, there were 339 plan reviews conducted.

In addition to the consultation and plan review duties, the fire protection specialists conduct fire safety training for fire service groups, safety professionals and the public. Each year, fire safety information is provided to hundreds of people through dozens of fire safety presentations.

The most significant accomplishment was the adoption of an updated version of the state fire code (called the Minnesota Uniform Fire Code). The updated version of the code became effective on June 29, 1998. Following adoption of this newer edition of the code, the fire protection specialists were involved in drafting new policies, procedures and guidelines for use by persons involved in fire safety enforcement.

As a normal part of their duties, the fire protection specialists interact with many other safety officials. They represent the State Fire Marshal Division on committees and task forces. As such, they are an integral part of the Division and often called upon for their expertise. The fire protection specialists are very knowledgeable about emerging trends and new technologies in fire protection.

FIRE PROTECTION LICENSING SECTION

Program calls for licensing fire protection contractors who sell, design, install, modify, or inspect fire protection systems.

The Minnesota Fire Protection Contractor Licensing Law (Minnesota Statute 299M.01-12) authorizes the State Fire Marshal to regulate the fire sprinkler industry. The law requires the licensing of contractors and certification of sprinkler fitters. The rules that were promulgated as a result of the law require fees to be collected for licensing and permitting of fire protection-related work. The Fire Protection Licensing Section also investigates complaints, inspects sprinkler installations and provides education and information services to the sprinkler industry, public officials and the public.

The Fire Protection Licensing Section is headed by Bob Dahm, supervised by Dave Stegura, and includes two plan review/code specialists, one field inspector and one clerical support person.

Licensing of fire sprinkler contractors and certifying journeyman sprinkler fitters began on February 21, 1994. In 1998, 53 contractors and 7 design contractors were licensed. In addition, 481 journeyman sprinkler fitters and 63 limited journeyman sprinkler fitters were certified during the year. Litigation was filed on February 22, 1994 that restricted the state rule requiring apprentice sprinkler fitter participation in a federal or state approved training program. In March of 1996, the federal ruling eliminated the ability of the State Fire Marshal Division to register and/or require federal or state approved training of apprentices.

The State Fire Marshal Division performs sprinkler system plan review and issues permits for 640 communities in Minnesota. Cities may issue fire protection system permits if they meet program and training documentation requirements. The Division issues fire protection system permits for all installations not performed by cities and the State Building Codes Division. In 1998, the Fire Protection Licensing Section performed the following activity:

	1995	1996	1997	1998
Sprinkler Contractors	58	56	59	53
Design Contractors	7	3	4	7
Journeymen	457	476	490	481
Limited Journeymen	87	68	61	63
Permits Issued	275	352	327	364
School Review Assistance	42	25	11	6
Complaint Investigation	81	62	13	29
Field Inspections	45	34	17	38
<u>Generated Revenue:</u>				
Permits	\$ 89,016	\$102,756	\$119,465	\$137,149
Surcharges	113,031	106,951	119,889	111,961
Licenses	80,985	78,460	79,900	78,825
Misc.				2,801
TOTAL	\$283,002	\$288,167	\$319,254	\$330,736

379 Fireworks Operators have been certified since the certification program began.

The Fire Protection Licensing Section supports training and education through seminars and presentations. The Advisory Council on Fire Protection Systems provides input regarding training and education needs. In 1998, there was one meeting held with the contractors concerning licensing issues. In addition, the staff provided presentations at eight association conferences.

PUBLIC DISPLAY FIREWORKS OPERATOR CERTIFICATION

As a result of a study conducted by the State Fire Marshal Division concerning safety aspects of public fireworks displays and fireworks display operator qualifications, the Minnesota Legislature passed a new fireworks law in 1995. That law required that the State Fire Marshal adopt reasonable guidelines on fireworks display safety and also certify fireworks operators.

The fireworks law (MN Statute 624.22) requires all fireworks displays conducted in the State of Minnesota on or after January 1, 1996 to be supervised by a fireworks operator certified by the State Fire Marshal Division. An operator may be certified by passing a written examination administered or approved by the State Fire Marshal. The examination satisfactorily demonstrates the applicant's knowledge of statutes, codes, and nationally recognized standards of safe practice for the discharge and display of fireworks.

Fireworks operator certification began in January, 1996 with testing locations throughout the state. After the initial testing period, applicants could come to the State Fire Marshal Division headquarters to take the examination. As a result of the certification process, there are currently 379 licensed fireworks display operators. Of those, 247 are certified for outdoor fireworks displays, 14 are certified for indoor (proximate) fireworks displays, and 118 are certified to conduct both outdoor and indoor fireworks displays.

After every display, the certified operator must submit a Fireworks Display Report to the State Fire Marshal Division. In 1998, 478 reports have been received, with information on type and number of shells used, property damage, injuries, and product defects. Although twenty-two instances of firework malfunction were recorded in display reports, there were no bystander injuries reported. Analysis of these reports will make it possible to assess the impact of controlled fireworks displays, and help identify any consistently defective products or operational problems.

The display report information becomes particularly important when we consider that 400 people have been injured by illegal fireworks since 1989. Sixty-one percent (61%) of these were children from infants to age nineteen. During the same period, nearly \$1.4 million in property was destroyed. Most of the incidents, and the majority of property damage each year occurs during June and July. From 1989-1998, 77% of those injured were male. The type of illegal firework cited most often in injury reports was the bottle rocket.

In Minnesota, a state where fireworks are illegal, fireworks losses since 1989 caused:

- nearly \$1.4 million loss*
 - 400 injured*
 - 61% of the injuries were children*
-

Minnesota State Statute specifically states that “it shall be unlawful for any person to offer for sale, expose for sale, sell at retail or wholesale, possess, advertise, use, or explode any fireworks.” The term “fireworks” includes all firecrackers, bottle rockets, roman candles, sparklers, party poppers, whipper snappers, and snap-n-pops. The only legal items in the state are fireworks for public display (for which a permit is required), and caps for toy guns.

HAZARDOUS MATERIALS REGIONAL RESPONSE TEAM PROGRAM

The Hazardous Materials Regional Response Team Program utilizes local public and private sector organizations, under contract with the Minnesota Department of Public Safety, to provide specially trained and equipped personnel who respond to support local authorities during hazardous materials incidents. The Hazardous Materials Section of the State Fire Marshal Division is responsible for the development, implementation, and administration of the operational components of the program. Overall program administration is shared with the Division of Emergency Management.

A total of ten public and private agencies serve as regional teams. Emergency Response Teams (which also serve as Chemical Assessment Teams) include the Duluth Fire Department, Moorhead / Fargo Fire Departments, Rochester Fire Department, and the St. Paul Fire Department. Chemical Assessment Teams include the Arrowhead HazMat Team (Grand Rapids Fire Department), North Metro HazMat Team (Fridley, Coon Rapids, and Spring Lake Park / Blaine / Mounds View Fire Departments), Hopkins Fire Department, Mankato Fire Department, St. Cloud Fire Department, and one private entity; West Central Environmental Consultants, Inc.- Morris. A new contract cycle began on July 1, 1997 with each team electing to renew its contract for a two year period ending June 30, 1999.

Teams responded to a total of nineteen incidents during 1998. Types of incidents included fires involving chemicals and chemical reactions, highway transportation accidents fixed facility releases, and clandestine drug labs. Major responses included the rollover of an acid cargo tank truck near Alexandria, a release from a large anhydrous ammonia tank during the Comfrey tornado, and a facility fire in Cold Spring which impacted the plant’s ammonia refrigeration system. The most common types of assistance requested were air monitoring, substance identification and technical advice.

The Team Advisory Committee met quarterly during the year to review team responses and training activities, and discuss administrative and operational issues. Special training programs were conducted during each meeting.

Work groups of the Team Advisory Committee (Equipment, Medical Support, Suggested Operating Guidelines, and Training), which were established in 1997, continued their work during the year. Activities included development of a planned program for the upgrading of air monitoring equipment (Equipment), establishment of emergency medical guidelines, protocols and personnel monitoring forms (Medical Support), preparing recommendations for continuing education of team personnel (Training), and initiating a review and revision of suggested operating guidelines (Suggested Operating Guidelines).

Hazardous Material Response Team Program calls for statewide system of 4 Emergency Response Teams supported by 6 Chemical Assessment Teams.

*Departments reporting
by electronic means
provided 88% of all
reports in 1998.*

The teams continued to actively participate in hazardous materials exercise conducted by local jurisdictions within their primary response areas. One such exercise took place in St. Paul, and was most notable in that it resulted in the production of a video tape which explains and promotes the Regional Hazardous Materials Response Team Program. Copies of the tape were provided to each team for use during program orientation sessions conducted within their response areas. Funding for the project was provided by private industry.

FIRE DATA

The Fire Data Analysis team, headed by Bob Dahm Bureau Chief and supervised by Connie Weaver includes Ernie Schiedness, Nora Gierok, and Irene Moore. This team collects and analyzes over 152,000 incident reports annually. They also provide technical assistance to 793 Minnesota fire departments. This team tracks major incidents as they occur and begins the process of providing data and information to local fire service leaders and the media regarding similar incidents and/or trends as they develop.

This team also provides special reports to local fire departments that request comparative data for budget justifications, public education, or community efforts to further the adoption of local codes or ordinances. Additionally, arson fires in Minnesota have been watched very closely and data is being used to develop strategic plans and trend analysis to combat this problem. In addition, incidents in the high-risk fire death groups (such as elderly, disabled, and young children) are being monitored to provide information on how best to address the fire safety concerns of these target groups.

Data collection through the Minnesota Fire Incident Reporting System (MFIRS) is a major program in the Division. Data is critical in determining where efforts and resources should be placed. Efforts to pass legislation relating to the life safety of Minnesotans have been greatly assisted by the data received from the fire service through MFIRS reporting. The number of fire departments participating in MFIRS has increased significantly in the past five years, and has provided a wealth of information which exerts a major influence on the direction of statewide fire and emergency response efforts.

There were 672 fire departments that reported in 1998, a slight decrease in MFIRS participation. Of the reporting departments, 187 did so electronically, and they provided 88% of all reports in 1998. Quality assurance and blank fields continue to be major concerns with reporting. In 1998, 21% of structure fires were reported as "cause unknown." Reporting of smoke detector and sprinkler performance also needs improvement. We sincerely encourage each fire department to join our efforts and support the MFIRS system. The data we collect can assist departments in justification of staffing, equipment, training, and prevention needs for their communities. Please contact our office for assistance in getting started with MFIRS reporting. The Fire Data Team members are always ready to help with technical and other reporting questions.

The New National Reporting System

The standards for NFIRS 5 (National Fire Incident Reporting System) have now been released by the United State Fire Administration (USFA). They are available from USFA via their World Wide Web site at www.usfa.fema.gov. Several vendors have obtained conditional certification of their incident reporting software as of the publication of this report.

The plan to implement the new NFIRS 5 standard within Minnesota will include the following.

1. Departments may receive free vendor software from the State Fire Marshal Division. The software is free to the department; however, there is a nominal fee for the first year support of the software. The free software will be distributed via the annual Fire Chiefs' Conference, at training sessions to be scheduled throughout the state, or by mail order to the State Fire Marshal Division.
2. Training on the new software and the NFIRS 5 standard will be scheduled throughout the state. The training will take place within the regions as established by fire department and fire chiefs' organizations. Training sessions will be announced via the State Fire Marshal Division web site and by mail within each region as the training is scheduled.
3. As the departments in a region are trained and their software distributed, that region will be switched over to the new NFIRS 5 standard. The State Fire Marshal Division will begin accepting incident reports from departments in that region after training is completed.
4. Those departments not currently using technology to report their incidents will be kept at NFIRS version 4 paper reports. Versions 4 and 5 of NFIRS can exist side by side for some time to come. As the paper reporting departments acquire technology to do their reporting, State Fire Marshal Division will supply them with software as described above so they may start reporting their incidents via automation.
5. The State Fire Marshal Division will work with departments using custom software to assist them to move to the NFIRS 5 reporting standard. Those departments are encouraged to check the web site mentioned above for the complete documentation of the NFIRS 5 standard so that it may be built into a new system development of their reporting systems. These departments are further encouraged to contact us to discuss their system development plans.

As the new NFIRS version gets closer to reality, fire departments will be kept apprised of any changes which may affect them.

Departments having questions regarding the implementation of NFIRS 5 within Minnesota are encouraged to contact Ernie Scheidness at the State Fire Marshal Division. Also, the division will keep recent news of the NFIRS 5 implementation and training posted at our web site: www.dps.state.mn.us/fmarshal/fmarshal.html.

*State Fire Marshal
remains committed to
public education efforts
to reduce the Minnesota
fire problem.*

PUBLIC EDUCATION

As in previous years, our Division has worked very hard in conjunction with the many proactive fire departments in our state. The dedication and confidence in public fire and life safety education within the Minnesota Fire Service is increasing and expanding to meet the needs of our citizens. These collaborative efforts have great results. We are pleased to announce our statistics showing that the 0 – 19 year old age group presents a 50% decrease in fire deaths from 1997 to 1998. While this last statistic is very good news, our work is definitely not completed. The injury and death rates due to fire in the 20 – 59 year old range continues to increase, demonstrating a need to increase our efforts with a focus on this group.

In 1998, 160 Fire Departments provided 5000 smoke alarms to at risk families through a program sponsored by the Tandy Corporation and our Division. Operation FireSafe was a great opportunity to ensure that homes that would not otherwise have an alarm would now have this lifesaving tool. The smoke alarms were provided at no cost to the recipients, the Fire Departments, or the State Fire Marshal Division. Our Division also participated in the grant process with the Minnesota Department of Health, which was awarded the grant and not only provided, but is in the process of installing 3000 lithium powered ten year smoke alarms. These alarms will be installed in Koochiching, Itasca, Aitkin, and Hennepin counties, as well as the Bois Forte Indian Reservation.

Yet another alliance brings Smokey Bear and Sparky together as the Department of Natural Resources and the State Fire Marshal Division brought in-school curriculum advice and opportunity to thousands of teachers at the 1998 Education in Minnesota Conference. Presenting the NFPA “Risk Watch” program to these educators in their environment proved very effective.

“Risk Watch” is a new “All Injury” safety curriculum designed for teachers to teach in the classroom. The program addresses eight key injury areas, which are: Fire and Burns, Water Safety, Falls, Poisoning, Choking, Bike and Pedestrian Safety, Firearms, and Car and Bus Safety. This concept had been discussed at the Division and in the Fire Service community for a number of years. In 1995, National Injury Prevention groups came together from all over the country to begin the work of establishing such a curriculum. The recently-released curriculum is designed to be taught in preschool through the eighth grade. Our division also creatively utilized this program as a resource to provide a series of safety articles to the weekly newspapers across the state, taking the message to the adults in the home as well as the youth.

Another brainchild of the NFPA in 1998 was the Fire Prevention Week theme of “The Great Escape”. In the first year of this innovative three year program, the goal was to encourage families to plan and practice escape plans for their home. The Division approached the Mayor of Inver Grove Heights, Joe Atkins, and enlisted his family into the concept. The entire family agrees that they not only learned a very valuable lesson, but had some true “quality” family time as

well. Thanks to their efforts and the many primetime news stations covering the event, the message was received by countless Minnesotans. The plans to expand this program to countywide in '99 and statewide in the year 2000 are already well in the works! An easy plan to follow, the NFPA provides each and every Fire Department in our great state with a "Great Escape" toolbox free of charge.

We are still actively involved with the MN State Fire Chiefs and the Fire Marshals Association of Minnesota public education committees. The groups jointly sponsored a Juvenile Firesetter Conference in September, 1998 and have many other valuable events planned for next year.

Some new and uncharted territory was discovered and conquered by these alliances in 1998 also. This "territory" being the Nation's #1 spectator sport – Auto Racing. Utilizing the MSFCA P.A.C.E. car and Safe Escape House, and the State Fire Marshal Sprinkler Trailer, our team reached several hundred people with our safety messages at the first annual "Firefighter Night at the Races" held at the I-94 Speedway in Sauk Centre. The Sauk Centre Fire Department joined Sparky and Smokey Bear in delighting the fans by providing them with lifesaving education on escaping from a fire, preventing tragedy, and even fire extinguisher usage.

The Division hosts media events and press conferences throughout the year. We continually utilize the window of opportunity in fire incidents to provide the public information necessary to avoid such events. We receive a lot of feedback from the public, who, in turn, call their local fire departments for additional information or assistance.

The Division continues to make educating the public a priority and to make Minnesota a fire safe community for all who live, work, or play in our great state.

Children using fire inappropriately is still a major cause for concern.

JUVENILE FIRE SETTING

The problem we face with juvenile firesetting has no simple solution. In fact, the majority of the issues is not with the children at all, but with the perspective of society. Once we stop sweeping this behavior under the rug with beliefs that “it’s just a phase they’re in” or “it’s normal; we all did it and we turned out just fine,” then we can move forward with the solution. People inside and outside the fire service may be unaware of the complex issues that are behind juvenile firesetting.

Children who start fires are categorized in one of four general areas. The areas begin with curiosity, a normal but still dangerous fascination with fire. Next is the crisis category; in this category a child is attempting to reach out due to some traumatic occurrence in his or her life. The delinquent category occurs when a child has set the fire with intent to draw attention from peers or authorities to his/her “power” through destruction. Finally, the pathological category is a truly psychological disorder with a variety of symptoms and other problems. No matter what the reason for this unlawful behavior, the result is the same — injury, death, and property loss.



Fires Involving Children Playing With Fire

	1998
Fires	427
Deaths	2
Civilians Injured	20
Firefighters Injured	6
Dollar Loss	\$2.1 Million

Within which category they belong is determined through a structured interview and assessment process. It is extremely critical to perform a thorough and complete interview of the child and his/her parents, as well as to examine their environment, to come to an appropriate conclusion of their situation.

What is principally important is that every child who has set a fire is identified, taken through a comprehensive fire safety program, is made accountable to the justice system, receives the appropriate referral, and complies with a restitution plan. Referral may be made to one of many agencies (mental health, social services, child protection, etc.). The available statistical data shows that up to 81% of the children who set fires will repeat this behavior if proper intervention is not attained. This leads us to conclude that early intervention and treatment will prevent future criminal behavior and save countless injuries, lives, and dollars of property loss.

After a great deal of research and development the Minnesota Juvenile Firesetter Program was completed and introduced in October of 1998. Beginning with Hennepin County, a modified version was put into action by their Juvenile Firesetter Task Force. The Hennepin County F.I.R.E.S. (Fire Intervention and Related Educational Support) Program is the product of a very dedicated and concerned group of professionals who through perseverance and diligence organized and trained instructors from various agencies throughout the county. To date there have been several successful intervention classes involving the firesetting youth and their guardians, as well as an avenue for referral. The F.I.R.E.S. program, both through its development and its implementation, has served as somewhat of a pilot to aid in the construction of the statewide model.

The strategic plan for implementation includes developing regional task forces that will provide all of the components necessary for successful intervention. The success of this program depends on the support and cooperative efforts of many agencies within the regions. The task forces will be comprised of several agencies including the fire service, the juvenile justice system, police departments, mental health agencies, and various social service divisions.

The release of the program to the other regions, scheduled for October of 1999, will mark the beginning of the statewide implementation. These regions are supported and divided by the boundaries of the Minnesota Service Cooperatives, formerly known as the ECSU (Educational Cooperative Service Units) system and will be housed at their regional headquarters in Thief River Falls, Virginia, Fergus Falls, St Cloud, Staples, Marshall, North Mankato, and Rochester. The metropolitan counties will be considered a region unto themselves, therefore having their own task force and program. Regions will be prioritized for implementation by statistics and demographics, striving to have all regions operational by the end of the year 2000. Once in place, these coalitions must continually evaluate and modify their programs to ensure their effectiveness.

This statewide program model is a step by step guide designed to assist with an intervention from identification through follow up. To completely understand the model and the process it provides, and to utilize it to its fullest potential, simply read the manual in its entirety. No experience or training is required to follow this model; however, attending training when the opportunity presents itself would certainly benefit your agency. Of course, feel free to contact the State Fire Marshal's office with any questions that may arise.

What can be done by the parents/caregivers?

Teaching the child about his/her role with fire and the dangers of it must be done at the very earliest opportunity. Children usually begin to grasp this type of information at about age three. As children grow older, the messages will grow with them: Not touching matches and lighters, advancing to stop, drop & roll, crawling low under smoke, and home escape drills. Adults must take this initiative and not expect that a child will learn it somewhere else.

Taking responsibility by setting a good example is also very important. Using fire starting devices properly and controlling a child's access to these devices will greatly reduce the risk. Parents/Caregivers should point out how they use safety rules in everything they do; this will help to make fire safety "second nature" to the child.

Remember, a single match can be as deadly as a loaded gun in the hands of a child. It can destroy lives, property and dreams at an incredibly rapid speed.

ADMINISTRATIVE SUPPORT SERVICES

This dedicated group assures that the internal functions of the office run effectively and efficiently. They continue to provide exceptional service to our staff, the fire service, and the general public. Persons responsible for specific programs are:

Pat Bell – is the clerical support supervisor; she provides clerical support to the fire/arson investigators, keeps the Division payroll records, and is familiar with all office functions.

Andrea Du Bay – provides support for the fire protection/sprinkler section.

Kammy Fox – is the main receptionist for the State Fire Marshal Division and Office of Pipeline Safety.

Robbie Floyd – generates inspection reports and corrective orders for the residential and school inspection team. She also provides support to fire service organizations such as the Governor's Council on Fire Prevention & Control.

Randi Gehrke – provides support for day care and foster care inspections, assists with residential orders and handles office inventory/supplies.

Marian Whitney – is responsible for the support functions of the health care inspection team.

This brief description cannot begin to cover the scope of duties provided by these individuals. The competent assistance of these exceptional employees allows the individual teams to complete their duties and assignments. Fire Marshal management gratefully acknowledges our invaluable support staff.

STATE FIRE MARSHAL DIVISION MISSION STATEMENT

The mission of the State Fire Marshal Division is to protect lives and property by fostering a fire safe environment through investigation, enforcement, regulation, hazardous materials response, data collection and public education.

IN CONCLUSION...

We hope this report will assist you in identifying the services, programs and resources available through our Division and encourage you to contact us with any comments or concerns.

We look forward to working with the fire service, law enforcement agencies and other organizations as we continue to address the fire safety issues facing the citizens of Minnesota.