

2015 WISCONSIN BURNING



June 2017

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Wisconsin Department of Safety and Professional Services

INTRODUCTION

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February 2017

The Wisconsin Department of Safety and Professional Services (DSPS) Fire Prevention Program is pleased to present the *2015 Wisconsin Burning* report. This report presents data on fire department incidents to help readers understand the Wisconsin fire situation and to help the fire service improve public safety services.

This data is also used at the national level to help identify challenges facing the fire service and understand what resources are needed to meet those challenges. All of the data for *2015 Wisconsin Burning* was solely collected from submissions by fire departments into the National Fire Incident Reporting System (NFIRS). Wisconsin has 833 fire departments, of which 827 departments reported some data to the NFIRS database. Incident reporting provides essential information about fires, their causes and consequences, as well as descriptive data about many other types of emergency services that fire departments provide to their community. Such data can help communities improve their fire protection systems while helping fire departments devise better ways to provide service. As we track data across the years, we will be able to recognize trends and determine how the fire problem in Wisconsin is changing.

We hope this information will be useful to Wisconsin fire departments, elected officials, and the general public as a planning tool for meeting the future needs of the fire service and fire safety in Wisconsin.

Statistics Disclaimer

As you read through *2015 Wisconsin Burning*, you may question some of the numbers reported. The data in this report contains only that information supplied by reporting fire departments. Incident information submitted does not always translate into usable data once it enters the NFIRS. The NFIRS requires a minimum amount of data for an incident to be considered valid. If critical data, such as type of fire, is missing the incident cannot be accurately analyzed. Some fire departments report all responses, while others only report fire responses. To paint a true picture of the fire departments' role in Wisconsin communities, this report contains information on all reported response types. Developing incident response data for a fire department can help determine the use of limited resources and budget dollars. Data submitted on fire cause determination has improved since the 2005 report, however, it still needs improvement. When reporting incidents we need to be more specific and not over use the "OTHER" category i.e. 100-Fire, other; 200-Overpressure, other. *Wisconsin State Statute § 165.55 requires a fire chief to investigate the cause, origin and circumstances of every fire occurring in his or her jurisdiction.* The data being submitted to the NFIRS database indicates that too often this statutory requirement is not being met.

As more fire departments enter their incident data, a more accurate assessment of Wisconsin's fire problem can be compiled. The DSPS Fire Prevention staff trains fire departments in accessing and properly submitting fire incident data. Fire departments are encouraged to participate in this training.



Wisconsin Department of Safety and Professional Services

Fire Service Facts

The following information is from data collected by the United States Fire Administration about fire departments in Wisconsin.

In 2017, there were 833 fire departments registered with the DSPS. Of those departments, 827 also are registered/reporting with the U.S. Fire Administration.

- 659 volunteer departments
- 120 combination departments (at least one full-time person and volunteers)
- 41 career departments
- 13 affiliate/federal/state/military/tribal

There are 29,842 firefighter staff in Wisconsin

In 2015, Wisconsin's total dollar loss due to fire was \$234,673,915 and the total dollar loss for all incidents was \$241,623,206.



INCIDENT REPORTING

2015 Wisconsin Burning contains information on the total number of incidents reported by participating fire departments. In 2015, a total of 800 fire departments reported incident data to the NFIRS. This is three more fire departments than reported in 2014.

For 2015, **SPS 314 and NFPA 1 (2012)** has the following requirements under **1.11.3.2** The fire department shall keep a record of fire and other emergency responses occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent and damage caused by such fires or emergencies. In addition, Wisconsin State Statutes § 101.141 shall apply; **101.141 RECORD KEEPING OF FIRES. (1)** Each city, village, and town fire department shall file a report for each fire that involves a building and that occurs within the boundaries of the city, village, or town with the U.S. fire administration for placement in the fire incident reporting system maintained by the U.S. fire administration. The report shall be filed within 60 days after the fire occurs.

SPS 314.01 (11) FIRE INCIDENT REPORTS. Substitute the following wording for the requirements in NFPA 1 section 1.11.3.2:

- (a) 1. For each fire, a record shall be compiled by a fire department serving the municipality in which the fire occurred.
2. The record in subd. 1. shall include all applicable information specified in s. 101.141 (2), Stats., shall be filed with the federal agency specified in s. 101.141 (1), Stats., and shall be filed no later than the deadline specified in s. 101.141(1) .

The fire service, the DSPS, and the U.S. Fire Administration recognize the importance of accurately reporting all fires. To be eligible for federal government fire grants, fire departments must report all incidents to the NFIRS. Failure to report can disqualify a department from receiving grants and may also disqualify members from attending training at the National Fire Academy.

To report the 2015 fire incident data, Wisconsin fire departments used one of the four methods:

1. State-provided Image Trend
2. Federally-provided Data Entry Tool (DET)
3. Federally-provided Data Entry Browser Interface (DEBI)
4. 3rd party software (Firehouse, Fire Programs, Emergency Reporting, ProPhoenix etc.)

SUMMARY BY INCIDENT TYPE

100-Fires

The number of fire calls reported in 2015 was slightly higher than in 2014 by 1,640. Fires accounted for 20,150 of the reported incidents with 10,414 classified as Structure fires (111-123), 3,000 were Vehicle fires (130-138), 5,901 were classified as Natural vegetation, rubbish, special outside, or crop fire (140-173) and 835 were classified as Fire, other (100).

200-Overpressure Rupture

There were a total of 644 Overpressure Rupture calls in 2015. Some of those calls are listed here: 457 of them were Excessive heat, scorch burns with no ignition (251). 47 incidents were Overpressure rupture from steam (no ensuing fire) (220-223), 34 were Explosion (no fire) (240-244) and 64 of them were listed as Overpressure, rupture, explosion, overheat, other (200).

300-Rescue and Emergency Medical Service Incident

Rescue and EMS incidents accounted for 189,646 calls, the most of the year. The top three of this category are as follows: 130,778 were for EMS call, excluding vehicle accident with injury (321), 18,460 were for Medical Assist, assist EMS crew (311) and 13,627 were listed as Emergency medical service incident, other (320).

400-Hazardous Calls

The number of Hazardous calls in 2015 dropped to 14,044 from 14,052. 2,970 were considered a Gas leak (natural gas or LPG) (412), 2,374 were Carbon monoxide incidents (424) and 1,771 were a Power line down (444).

500-Service Calls

Fire departments had 16,249 service calls in Wisconsin, 3,088 were Assist invalid (554), 2,142 were Smoke or odor removal (531) and 1,542 were Service call, other (500).

600-Good Intent Calls

There were a total of 19,795 Good Intent calls in 2015. Almost half of those calls, 10,452 were Dispatched & canceled en route (611). 3,859 calls were No incident found at dispatched address (622) and 1,425 were recorded as Good intent call, other (600). 129 calls were sent to the Wrong location (621) an increase of 33 from 2014.

Continued on page 8

SUMMARY BY INCIDENT TYPE, continued

700-False Alarm/False Call

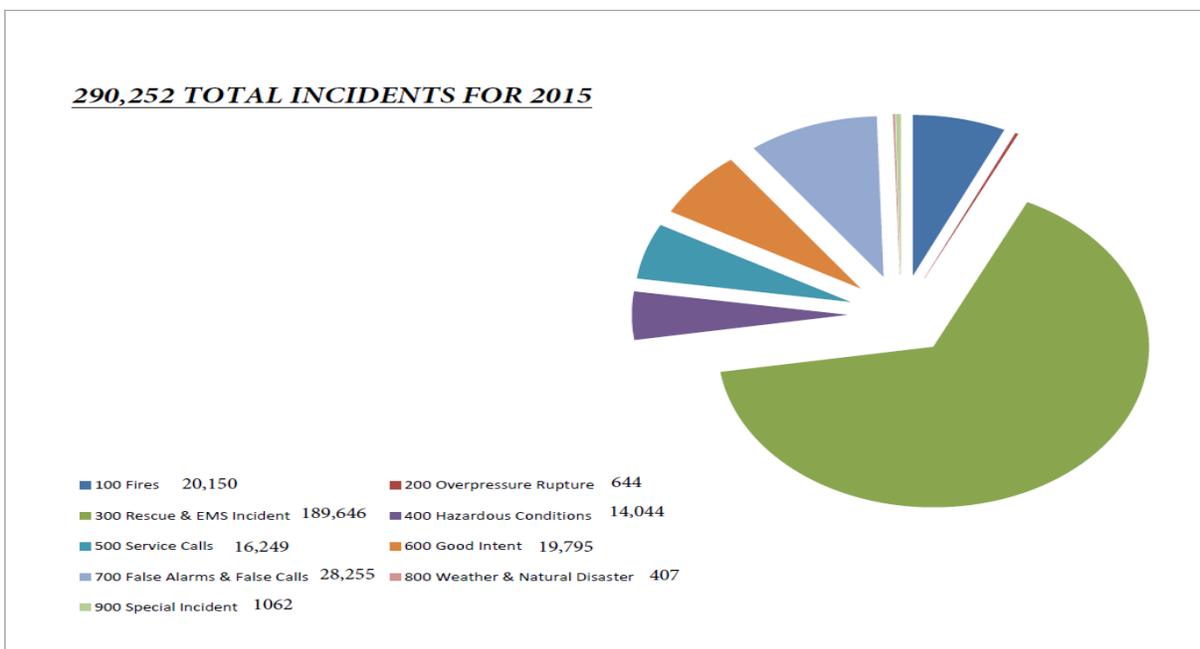
There were a total of 28,255 false calls in 2015, with a drop of 305 from 2014. The top three in this category are as follows: 5,727 were recorded as Alarm system activation (no fire), unintentional (745), 4,375 were Smoke detector activation (no fire), unintentional (743). 3,755 were recorded as False alarm, False call, other (700).

800-Severe Weather and Natural Disaster

Wisconsin had 122 Wind storm/tornado/hurricane or cyclone assessment incidents (813), 107 Lightning strikes with no fire (814), 96 Severe weather or natural disaster, standby (815) and 18 Flood assessment (812). 64 reported incidents were listed as Severe weather or natural disaster, other (800). Total of 407.

900- Special Incident Type

A total of 1,062 Special Incidents were reported in 2015, 786 were listed as Special type of incident, other (900) and 276 were listed as Citizen complaint (911).



Fire Cause

The reported fire cause for 867 incidents was for “Intentionally” set fires. 235 incidents were listed as “Undetermined”.

Those fires identified as “Intentionally Set” included 229 structure fires, 360 vegetation fires, 74 vehicle fires and 204 outside rubbish or storage fires. In contrast “Natural Causes” were attributed to 89 structure fires, 76 vegetation fires, 23 outside storage fires, six vehicle fires, one outside rubbish fire and 11 crop fires.

In 2015 there were 11,249 fires identified as occurring in a structure. A sampling of these structure fire causes are as follows: 598 were due to “Cooking”, 121 were “Exposure Fires”, 159 were because of “Smoking” and 12 were “Playing with Heat Source”. “Fireworks” were responsible for eight (8) structure fires. “All Other Causes” were attributed to 4,754 fire incidents.

The most frequently determined cause of vegetation, crop, and special outside fires (3,254 fires) was “All Other Causes”. Another 235 vegetation fires were listed as “Undetermined” while “Smoking” was the responsible cause in 161 reported fires. “Fireworks” caused 23 vegetation fires.

Of the 3,000 reported vehicle fires, 67 of them were found to be “Exposure from a fire”, “Smoking” caused 14 fires while another 5 were the result of “Electrical Distribution”. “Natural Cause” was determined for 6 of the vehicle fires.

In a total of 20,150 reported fire calls, a cause determination was made in 9,298 of the incidents, but in 10,852 of the incidents, they were classified as to be either “Undetermined” or “All Other Causes”.



FIRE INCIDENTS

Structure and Natural Vegetation fires were the most common types reported, with structure fires being by the largest number. Of those fire departments reporting structure fires, a total of 7,608 were indicated as building fires. Cooking fires were 2nd largest after structure fires (1,513). Grass Fires accounted for 1,294 of the reported 3,379 Natural Vegetation fires. The 2nd largest of the vegetation fires were classified as a combination brush and grass fires (1,202), following that were Wildland fires (521) and vegetation fires classified as “Natural Vegetation Fires, Other” fires (362).

Passenger vehicles were the most common mobile property fires reported, with over 2,100. Off road/heavy equipment followed with 290 incidents. Road Freight/transport vehicles (253) and camper/RV (37) fires were also reported in 2015.

904 outside rubbish, trash fires were reported, along with 558 dumpster/outside trash receptacles. Outside rubbish fire, other accounted for 273 fires.

Outside equipment fires accounted for 213 of the total 522 Special outside fires reported in 2015. Special outside fires, other had 211 reported fires, followed by outside storage (74), outside gas/combustible explosion (17) and mailbox fires (7)

Last but not least, were cultivated vegetation/crop fires (225). The majority of these fires were reported as cultivated grain/crop (138), followed by cultivated vegetation/crop, other (80) and cultivated trees/nursery (7).

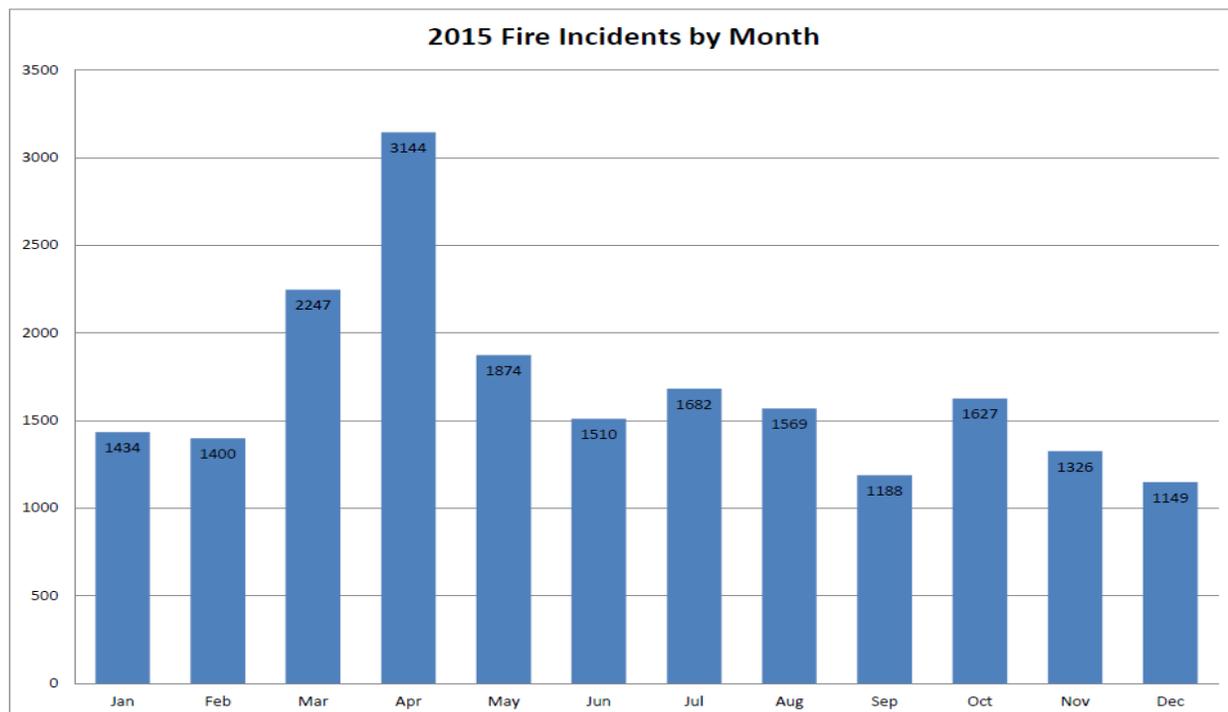


STRUCTURE AND VEGETATION FIRES BY MONTH

In 2015, there were 3,604 vegetation and brush fires reported with the majority being 1,294 grass fires. The second highest was reported as brush, or brush and grass mixture fire (1,202). For both, most of those fires happened in April. According to the data, 363 of the 3,604 fires were “Intentionally” set fires, 1,044 were listed as “Unintentional” fires and 87 were “Act of nature” fires.

The small numbers of vegetation fires in February (13) and January (30) were most likely because of snow.

Structure fire counts were about the same all year round. March accounted for the most (1,261) with 730 of those being listed as “Not specified” and 294 as “Unintentional”. The lowest month reported was September (715). April recorded the largest number of “Intentionally” set structure fires (34).



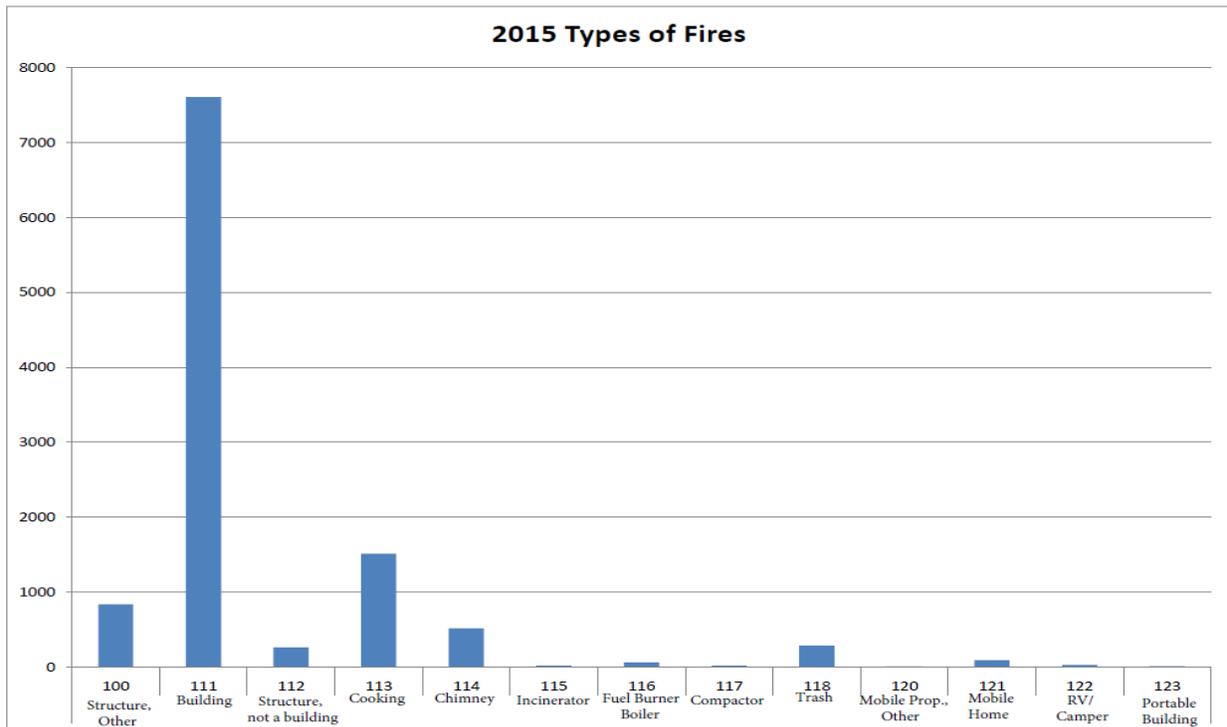
STRUCTURE FIRES BY PROPERTY TYPE

Of the 11,249 structure fires reported in Wisconsin for 2015, 7,608 were classified as a building fire. Of those building fires 2,761 were not classified by property use. Consequently, only 4,847 can be examined. Over half (2,627) the structure fires reported in 2015 occurred in 1-and 2-family homes.

Cooking fires were the second most frequent structure fires (1,513), with 679 of them reported in a multifamily dwelling and 536 fires in a one- and two- family dwelling.

There were 515 Chimney fires reported in 2015. Of those, 353 occurred in a 1-and 2-family dwelling, 82 were unspecified and 37 were residential, other.

The fewest fires reported were Fire in a mobile property used as a fixed structure, other (9), grain elevator (3), and motor vehicle/boat sales, service or repair (1).



FIRES BY TIME OF DAY

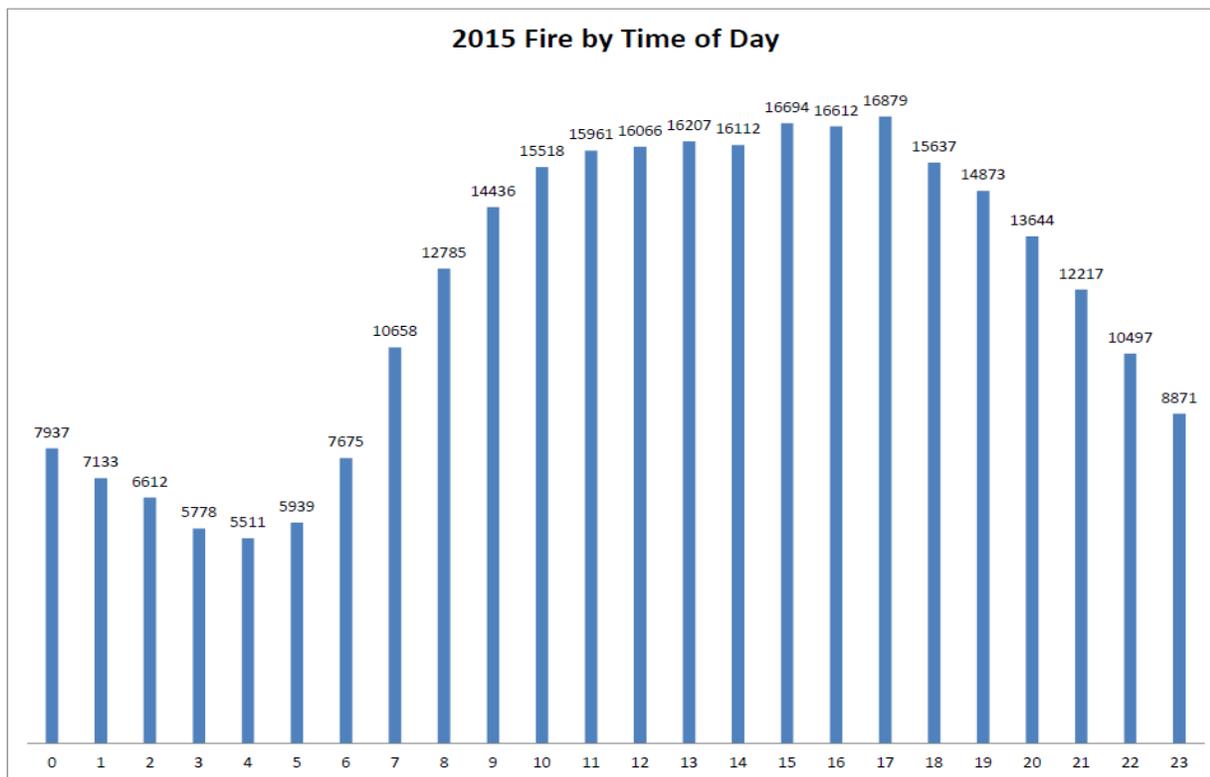
When tracking fire incidents by time of day, patterns do emerge. For example, cooking fires happened more between 5:00-7:00PM than 5:00-7:00AM. Outdoor rubbish fires occurred more often from 4:00-8:00PM, however, vegetation fires were more frequent from 1:00-4:00PM.

Vehicle fires were at their highest during the 4:00PM hour and at their lowest during the 4:00AM hour.

Structure fires remained fairly even over time, with a slight decrease between 6:00-8:00AM.

Chimney fires also reflected a fairly even pattern with decrease between 2:00-4:00AM and jump in increase around 5:00AM. The most chimney fires happened during the 8:00PM hour.

Overall, fires were less likely to happen between 2:00-8:00AM.

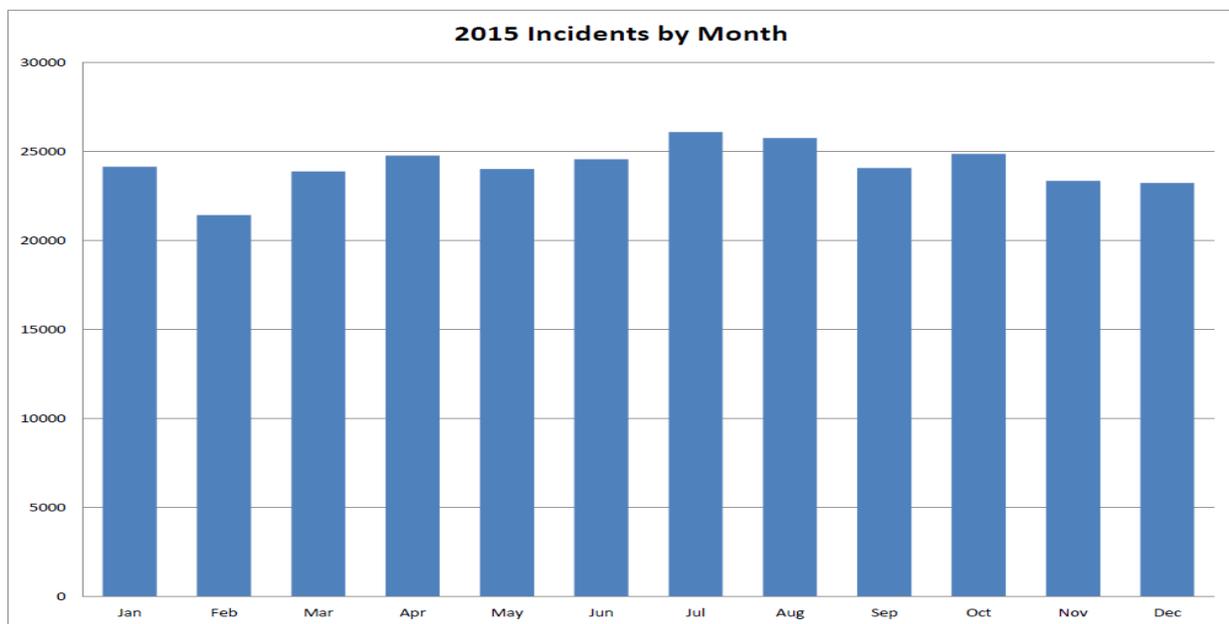


INCIDENTS BY MONTH

There were a total of 291,324 incidents for 2015. The busiest months were July (24,851) and August (24,574). The fewest calls came in February (20,206) and March (23,377).

July had 752 structure fires, 290 vehicle fires, 251 vegetation fires, 236 outside trash fires and 84 fire calls listed as other. Rescue & emergency medical service –related incidents were at 16,751. Of those, 14,302 of were classified as an EMS incident, while 11,510 were categorized as an EMS call, excluding vehicle accident with injury. Medical assist and extrication rescues accounted for 163 of the 1,455 incidents in that category. August also had 752 structure fires, 273 vehicle fires and 214 outside trash fires. Only 61 were special outside fires. Over 16,500 EMS incidents were reported in August with 1,542 medical assists and 48 water rescues.

The most structure fires were reported in March (1,170), with September having the fewest at 653. Passenger vehicle fires were highest in June (203). Overall, April had the most fires of all types (3,144) and December the fewest fires (1,149). In contrast, February had the fewest EMS calls (14,256) and July had the most (16,751).

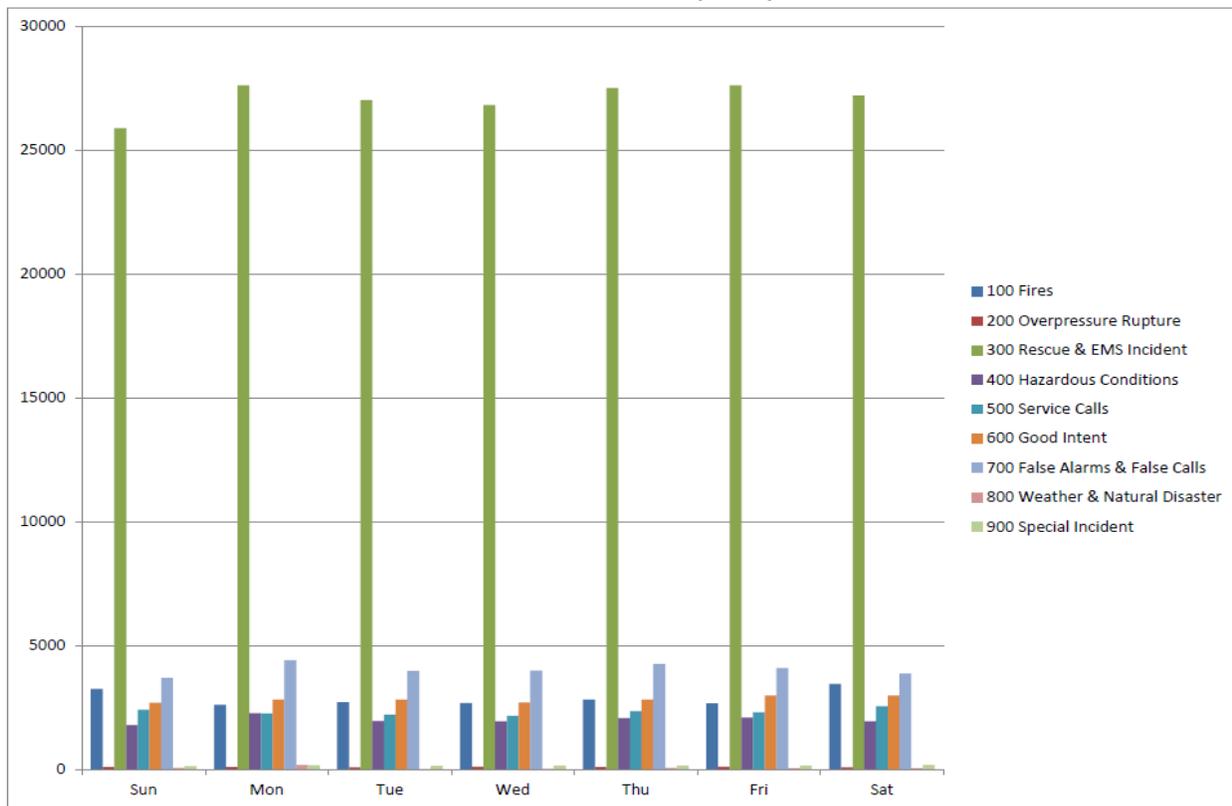


INCIDENTS BY DAY OF THE WEEK

When 2015 reported incident data was examined by the days of week, it indicated a fairly even pattern of total calls, from 39,969 on Sundays to 42,380 on Mondays. However, some trends appear on weekends particularly with an increase in “unauthorized burning” and outside trash fires. There were slightly more structure fires on Saturdays (1,568) and Sundays (1,755). Wednesdays displayed the fewest reported structure fires.

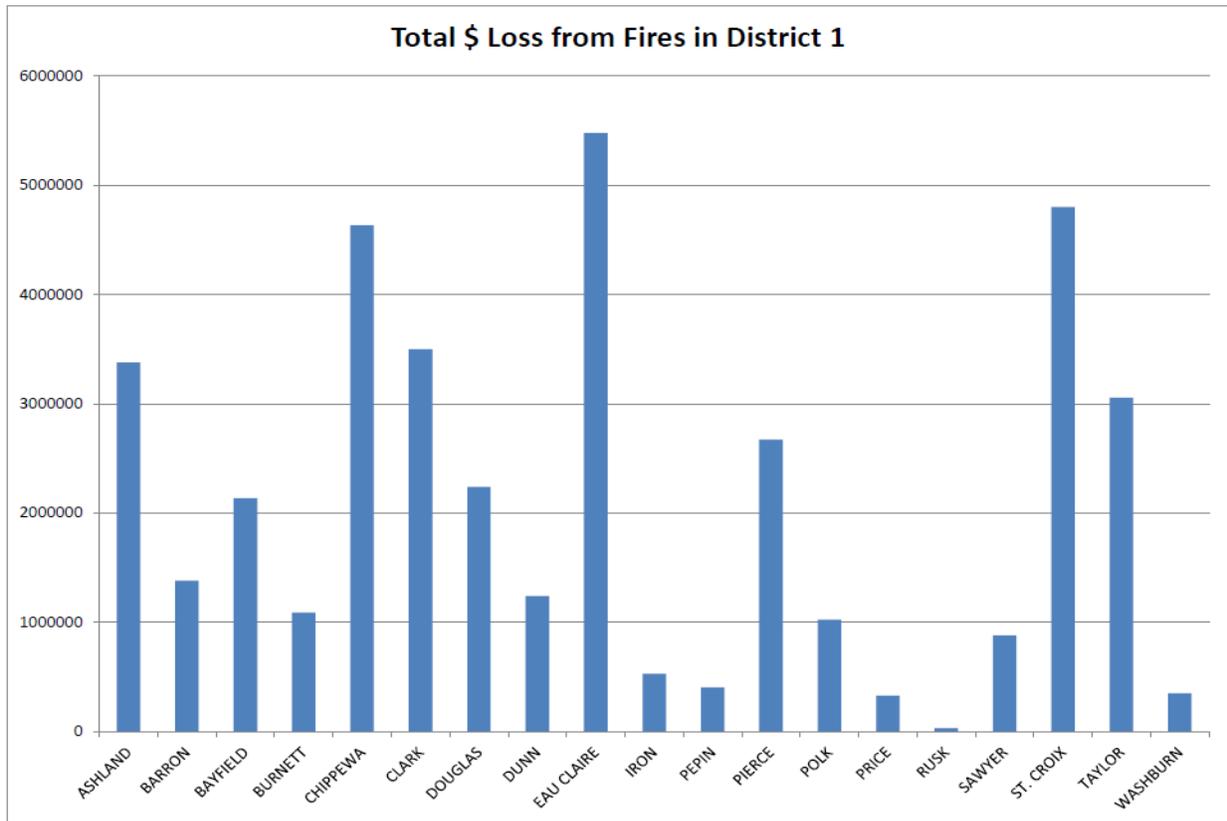
Vehicle accidents were highest on Friday (2,712) and Saturday (2,523), with an additional 231 vehicle extrications on those two days. Finally, police requests for fire department assistance were greatest on Saturdays with Tuesday being second greatest.

2015 Incidents by Day



DISTRICT 1 RICK SOMMERFELD FIRE PREVENTION COORDINATOR

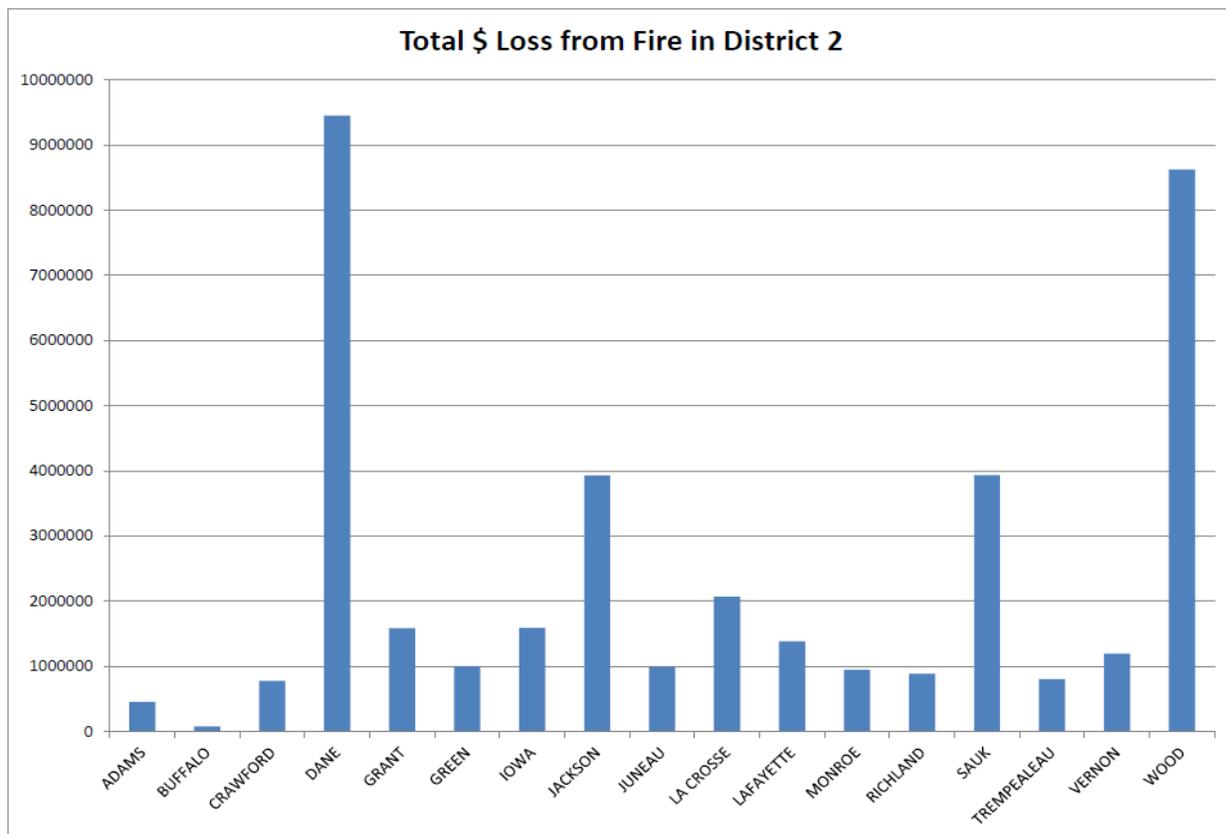
In northwestern Wisconsin, 168 fire departments reported a total of 24,120 incidents. The largest number of calls was for Rescue/EMS calls (15,806) followed by Fire calls (2,505). In District 1, the two most frequent types of fire calls were Structure fires (1,241) and Vegetation fires (556). Total dollar loss for District 1 was \$39,059,752.00 and the total dollar loss from fires was \$38,320,003.00. Fire related injuries and deaths reported for District 1 were 19 civilian injuries, 14 civilian deaths, 15 firefighter injuries and zero firefighter deaths for 2015.



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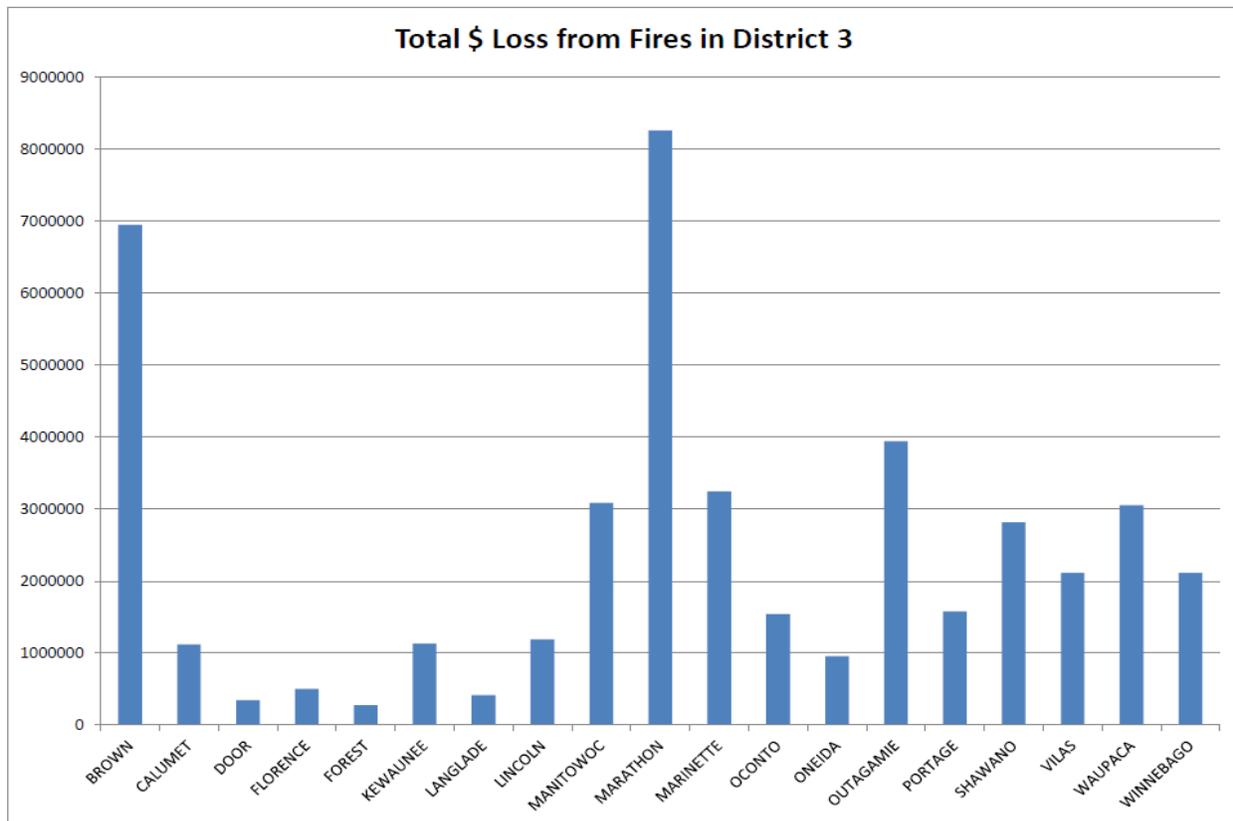
DISTRICT 2 MIKE FEHRENBACH FIRE PREVENTION COORDINATOR

In southwestern Wisconsin, 189 fire departments reported a total of 59,373 incidents. The largest number of calls was for Rescue/EMS calls (39,692) followed by Fires (3,612) . In District 2, the two most frequent types of fire calls were structure fires (1,731) and vegetation fires (720). Total dollar loss for District 2 was \$46,548,540.00 and the total dollar loss from fires was \$45,705,500.00. Fire related injuries and deaths reported for District 2 were 29 civilian injuries, 10 civilian deaths, 36 firefighter injuries and zero fire fighter deaths.



DISTRICT 3 CARL FRISQUE FIRE PREVENTION COORDINATOR

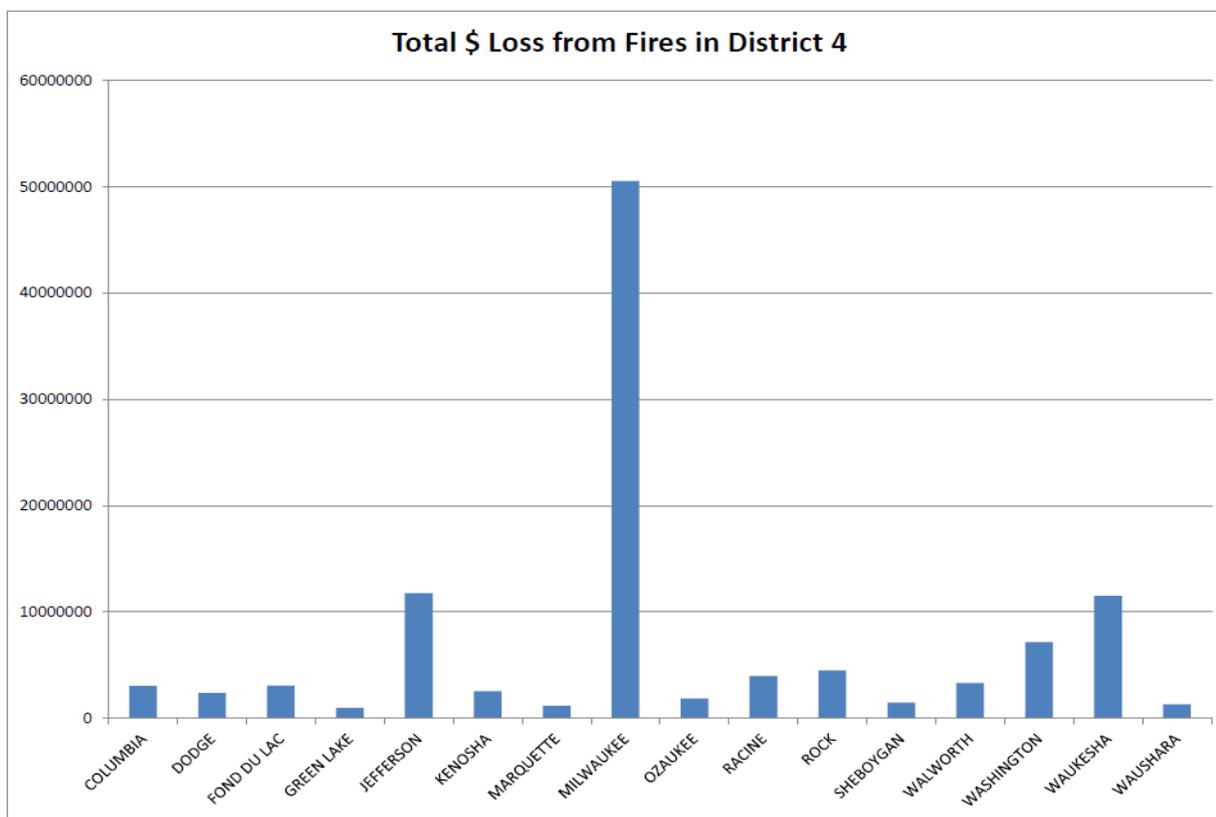
In northeastern Wisconsin, 252 fire departments reported a total of 51,241 incidents. The largest number of calls was for Rescue/EMS calls (32,101) followed by False Alarm/False Calls (4,320). In District 3, the two most frequent types of fire calls were structure fires (2,304) and vegetation fires (724). Total dollar loss for District 3 was \$43,982,369.00 and the total dollar loss from fires was \$42,686,574.00. Fire related injuries and deaths reported for District 3 were 32 civilian injuries, 18 civilian deaths, 31 firefighter injuries, and two firefighter deaths (1 Medical call related and 1 On-Duty at station) for 2015.



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DISTRICT 4 SUE BIRREN FIRE PREVENTION COORDINATOR

In southeastern Wisconsin, 224 fire departments reported a total of 156,590 incidents. The largest number of calls were for Rescue/EMS (102,815) followed by False Alarm/False Calls (16,239). In District 4, the two most frequent types of fire calls were structure fires (5,200) and vegetation fires (1,433). Total dollar loss for District 4 was \$112,032,545.00 and the total dollar loss from fires was \$107,961,838.00. Fire related injuries and deaths reported for District 4 were 89 civilian injuries, 13 civilian deaths, 80 firefighter injuries, and two firefighter deaths (1 Fire call related and 1 Medical call related) for 2015.

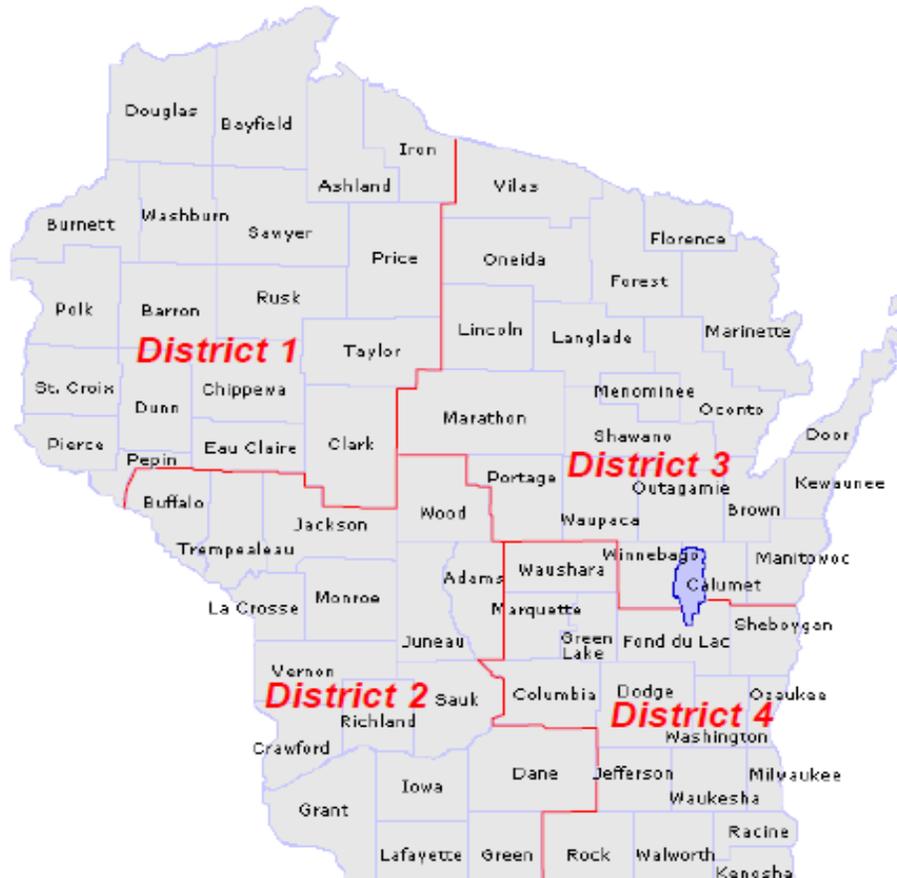




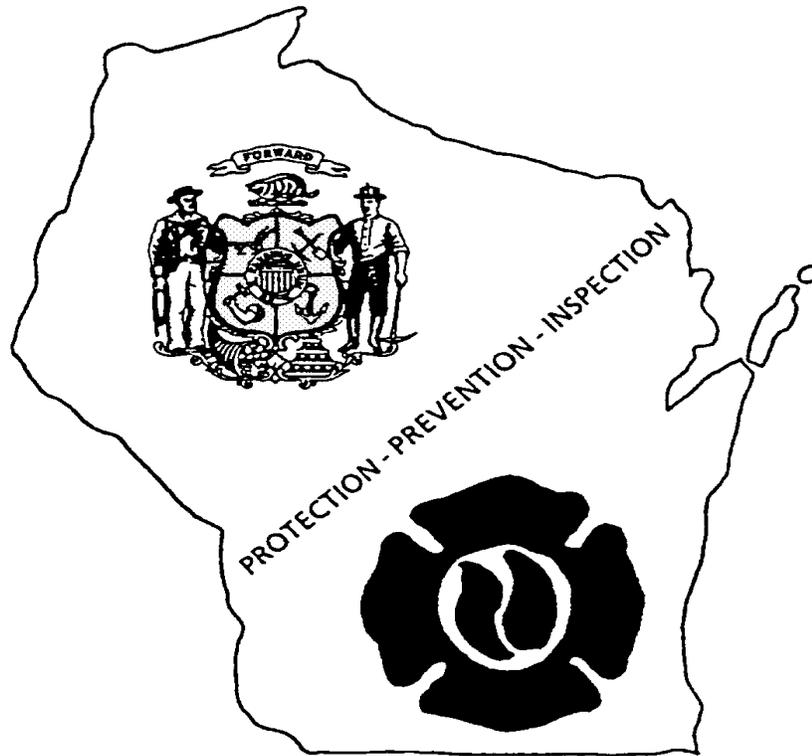
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