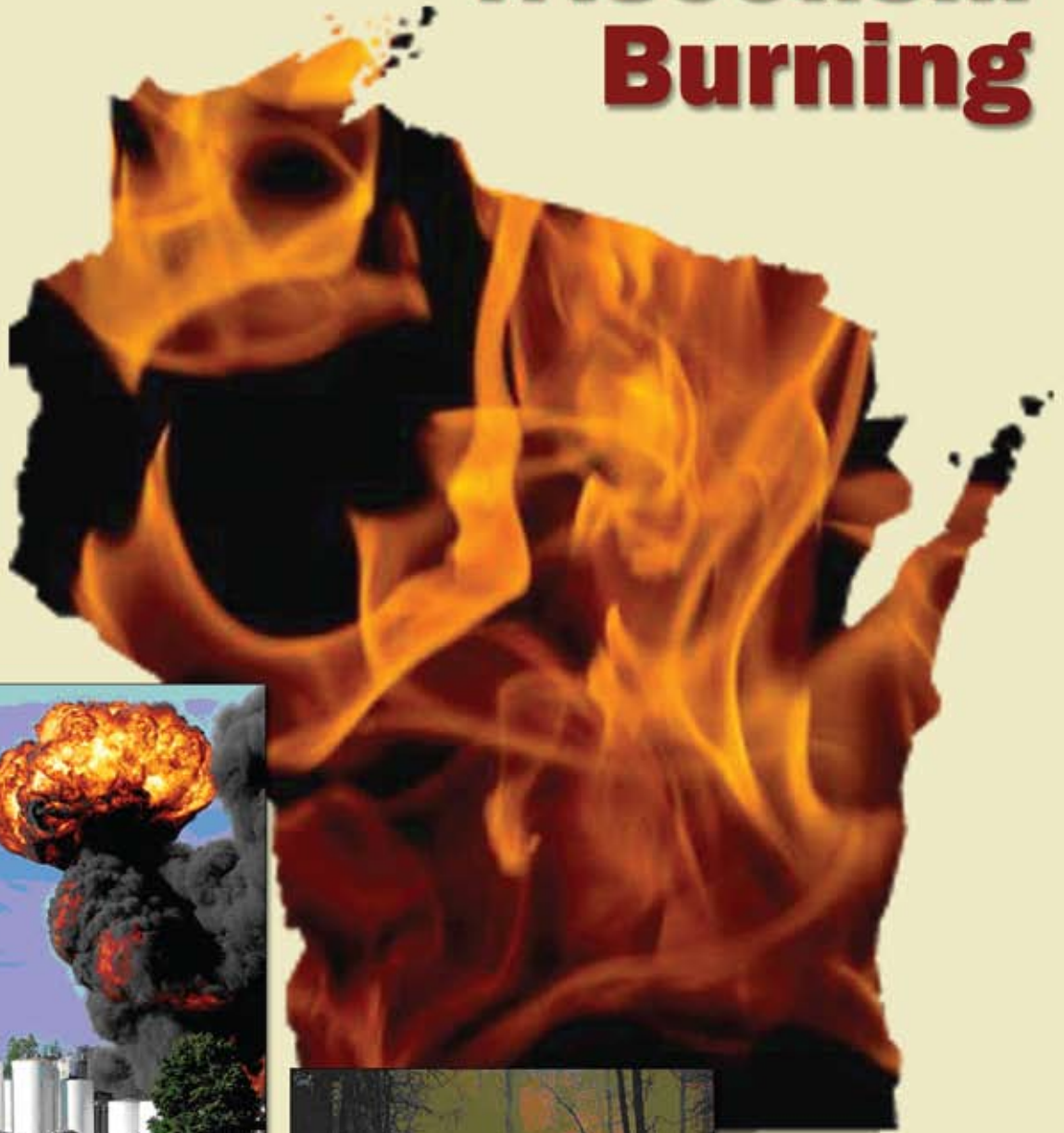


2005 Wisconsin Burning



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The Wisconsin Department of Commerce Fire Prevention Program is pleased to present its 2005 Wisconsin Burning report. This report presents data on fire department incidents to help readers understand the Wisconsin situation and to help the fire service plan for improved public safety services.

Also, this data is used at the national level to help identify the challenges facing the fire service and understand what resources are needed to meet those challenges. The way Wisconsin collects this data has changed in the past several years. For 2005, most of the data was submitted electronically using the National Fire Incident Reporting System (NFIRS) format that allows for a more detailed and customized analysis.

Wisconsin has 862 fire departments of which 537 departments reported some data directly to the NFIRS database or by paper forms to Commerce. 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 communities. Such data can help communities improve their fire protection systems while helping fire departments devise better ways to provide service. Also, we can use this data to improve fire and building codes, impact consumer product safety, and measure the effectiveness of public fire safety education in Wisconsin. As we track data across the years, we will be able to recognize trends and determine if the fire problem in Wisconsin is improving or growing larger.

We hope that 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.

Incident Reporting Information

The 2005 edition of Wisconsin Burning contains information on the total number of incidents reported by participating fire departments. In 2005, a total of 537 fire departments reported incident data to the Department of Commerce. This is 59 more fire departments than reported in 2004.

Fire Service Facts

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

Currently, 862 fire departments are registered with the Department of Commerce. Of those departments, 762 also are registered with the U.S. Fire Administration.

- 698 volunteer departments
- 106 combination departments (at least one full-time person and volunteers)
- 36 career departments
- 21 tribal, federal, and private departments
- one department providing inspection services only

More than 34,000 firefighters staff about 1,108 fire stations throughout the state.

- 16,163 volunteer firefighters
- 13,399 paid-on-call firefighters
- 4,572 career firefighters

An additional 1,651 civilian personnel work with fire departments in a variety of support positions.

For 2005, Wisconsin Statute Section 101.141 required the Department of Commerce to keep records of all fires occurring in the state.

101.141 Record keeping of fires. The department shall maintain records of all fires occurring in this state. Such records shall be open to public inspection during normal business hours.

In addition, Comm 14, the Fire Prevention Code, required fire departments to report fires in accordance with 14.47(3) and (5)c:

14.47(3) Fire Incident Reports. Each fire chief shall submit written fire incident reports to the department no later than April 1 for the previous year. The reports shall contain at least the information specified in sub. (5).

14.47(5) Record Keeping. The following records shall be generated and maintained by each fire department.

(c) Time, date and location of fires and number of firefighters responding to each fire.

Wisconsin Act 75 changed the fire reporting requirements in section 101.141 of the Wisconsin statutes. Act 75 became effective March 27, 2008, and will affect future data collection regarding fires that involve buildings.

The fire service, the Department of Commerce, and the United States 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 National Fire Incident Reporting System (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 2005 fire incident data, Wisconsin fire departments use one of three methods:

- 1) electronically directly to the NFIRS database;
- 2) by disk to the Department of Commerce; or
- 3) on paper forms provided to the department.



Statistics Disclaimer

As you read through the 2005 edition of *Wisconsin Burning* you may question some of the numbers reported. The data in this report contains only that information supplied by the reporting fire departments. Also, incident information submitted on paper forms to the Department of Commerce does not always translate into usable data once it enters the National Fire Incident System's (NFIRS) reporting system. The NFIRS system 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. As a result, data from 383 fire departments is included in this report.

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 2004 report, however, it continues to be relatively poor. *Wisconsin State Statute Section 165.55 requires a fire chief to investigate the cause, origin, and circumstances of every fire occurring in his or her jurisdiction.* The data submitted to the NFIRS database indicates that too often this statutory requirement is apparently not being met.

Attempts to analyze both civilian and firefighter injuries and fatalities were hampered by incomplete information; primarily, because more than 300 fire departments did not submit incident reports. For example, 659 firefighter injuries were reported to the database while only 10 civilian injuries and 14 deaths were recorded.

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

Types of Calls

The number of fire calls reported in 2005 was slightly more than reported in 2004. This increase may be related to more fire departments reporting data rather than to a growing fire problem in Wisconsin. Fires accounted for 9,552 of the reported incidents with 4,659 of those classified as structure fires.

False alarms that were classified as malicious made up only a small portion (838) of the false alarms reported. This is decrease of about 400 malicious calls over the 2004 data. Unintentional alarms (4,018) accounted for the largest portion of false alarms; these alarms included activation of sprinklers or smoke detectors with no fire. System malfunction accounted for another 3,227 false alarms. System malfunction alarms were frequently the result of environmental conditions such as steam or heat that were interpreted by the system as a fire or smoke condition.

"Service calls" increased from 2004 with 6,081 calls reported. The most frequent service calls were for

smoke investigations (1,293) and assisting invalids (481.) Wisconsin fire departments continue to rescue animals and provide other animal-related service as indicted by the 128 animal related calls.

Weather related incidents such as lighting strikes (70) and wind storms (39) were down considerably from 2004. Severe weather standby saw 60 fewer incidents (32 in 2005 compared to 92 in 2005).

"Good intent" calls resulted in 907 incidents that were canceled en route and another 17 that were sent to the wrong location. In addition, fire departments were dispatched 206 times to controlled burns and 573 times for smoke investigations.

Hazardous calls included 22 chemical spill responses, 715 gas leak investigations, and 231 flammable liquids or oil spills.

Incident Overview

The greatest number of assistance calls was to residential properties with 1,270 calls to one- and two-family homes and 665 to multifamily dwellings. There were 107 assistance calls to education occupancies while 311 assistance calls were undetermined. Twenty assistance calls were on water, one at a swimming pool and one at a yacht club. In addition, there were 39 calls for service: 14 at a 911 center, 10 at fire stations, and 15 at police stations.

Aircraft or airport facilities were involved in 82 assistance fire calls with 52 rescue/EMS incidents and one fire response.

Fire departments responded to 1,740 calls related to recreational activities including 1,132 EMS calls and 116 fire calls. Of the EMS calls, 262 were water related while playgrounds accounted for 63 calls.

In 2005, fire departments responded to 13,995 false alarms. The largest number – 2,945 – was to one- and two-family homes followed closely by multifamily dwellings with 2,656. Manufacturing plants had 1,043 false alarms, and that was about 600 more calls than business offices

had. Of the 236 false alarms reported in recreational facilities, health clubs had the most with 42.

There were 6,892 rescue/EMS calls to health care facilities, including 772 calls to medical or psychiatric hospitals. Nursing homes had the most rescue/EMS calls with 4,203 and clinics and doctors' offices had another 944 calls. Eleven EMS responses were to Hospice facilities.

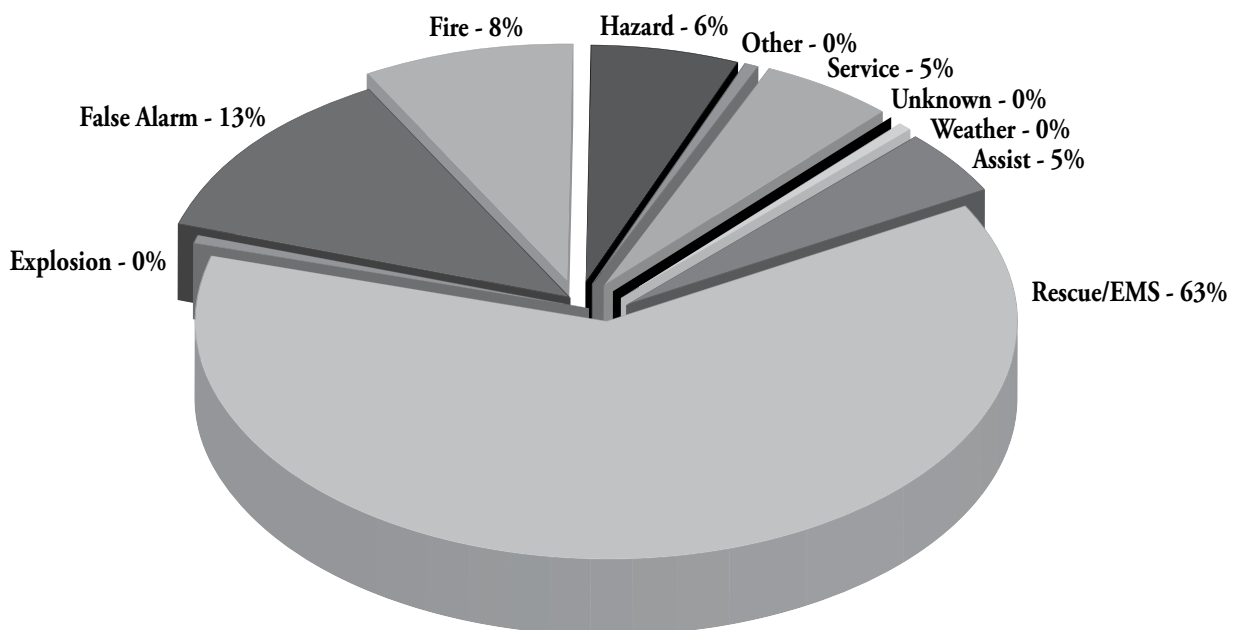
Nursing homes lead the health care group with 33 fire calls and 170 calls for service or assistance. Dental offices had a total of 107 calls – 80 for rescue/EMS, and 14 for false alarms.

In 2005, educational occupancies accounted for more than 2,100 fire department responses, and the majority (915) was rescue/EMS followed by false alarms at 831. Middle and high schools accounted for 409 of the EMS calls and 242 of the false alarms. Adult education occupancies reported 11 explosions and 15 other hazards. Middle and high schools reported 36 fires and elementary schools reported 34.

More than 5,700 fire department responses were for residential occupancies. These included 816 EMS calls to adult detention centers and 54 to juvenile detention centers. The fewest reported responses were to fraternity and sorority houses with 43 total calls including 14 rescue/EMS and two fire responses.

Fire Department Responses

Reports show that fire departments in Wisconsin responded to an incident about every 4.6 minutes in 2005 or a total of 115,236 incidents. This is 22,299 more responses than reported for 2004, and includes 71,935 rescue (EMS) calls, 13,995 false alarms, and 446 weather related calls.



Multifamily dwellings were the scene of 625 fire calls, 2,656 false alarms, 11,833 rescue/EMS calls, and 1,153 calls for service.

In 2005, the majority of fire department responses – 33,146 calls – were for single-family and two-family homes. Of this number, 193 were classified as explosion and another 2,196 were hazard calls. More than 21,300 EMS responses and 2,945 false alarms were reported. Ninety-one calls were weather related and 152 incidents were listed as unknown or other.

Fire departments responded to 11,556 fires on business properties in 2005, with 5,587 rescue/EMS incidents and 3,185 false alarms reported. The fewest responses were to funeral homes (9) and generating plants (7). About 600 calls were to places of worship with more than half being EMS related. No fire department reported a fire incident in cold storage facilities, convention centers, or radio and television stations.

There were 70 restaurant fires and 26 fires in bars or taverns in 2005. Of the 1,080 rescue/EMS calls to

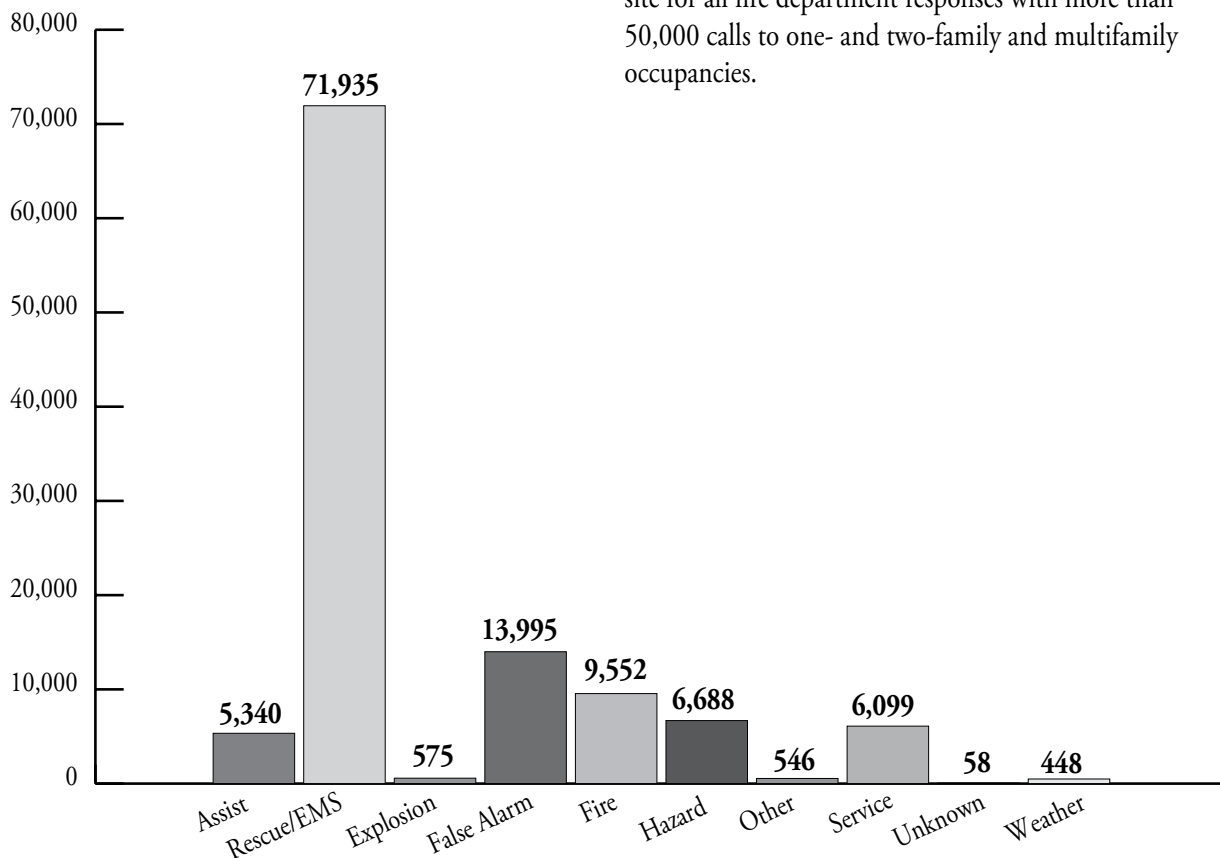
occupancies that serve food and alcohol, more than 450 EMS calls were to bars or taverns and 18 calls to casinos.

Railroad right of ways accounted for 82 fire calls and 25 rescue/EMS responses. There were 108 fires on vacant lots along with 12 other hazard calls and one explosion. Crop fires resulted in 95 fire calls while landfills had 29 fire responses. In this category, however, open fields had both the largest number of fire calls (1,032) and EMS calls (248).

There were 743 fire department responses to public buildings including three fires and 114 EMS incidents at fire stations; two fires and 220 EMS incidents at police stations; and one courthouse explosion. Also, some of the fire station rescue/EMS calls were because citizens came to the fire station for assistance, and therefore, were more than just injuries to fire personnel.

With more than 50,000 calls, the family home is the most frequently visited site for fire department responses.

Overall, the family home is the most frequently visited site for all fire department responses with more than 50,000 calls to one- and two-family and multifamily occupancies.



Fire Cause

The reported fire cause for 555 incidents was intentionally set fires. Another 2,382 incidents were listed as under investigation with the cause of the fire undetermined.

Those fires identified as intentionally set included 129 structure fires, 227 vegetation fires, 56 vehicle fires, and 93 outside rubbish or storage fires. In contrast, “natural causes” were attributed to 77 structure fires, 75 vegetation fires, 27 outside storage fires, and three vehicle fires.

Fire cause was determined for 448 reported fires in “undetermined” locations or occupancy types. Of this number, 151 were due to “operating equipment” while smoking materials or open flame were responsible for another 49 of these fires.

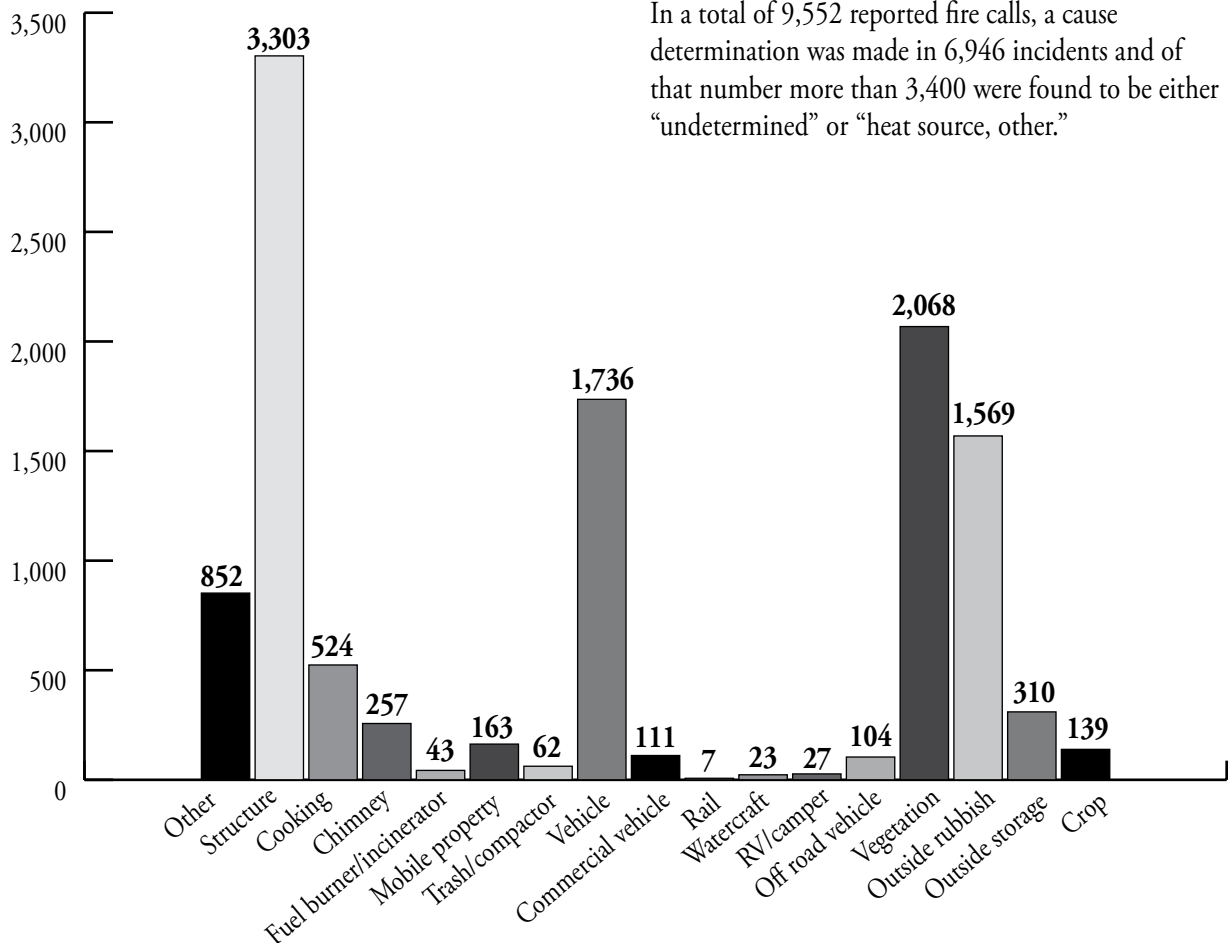
In 2005 there were 2,273 fires identified as occurring in a structure. Of these structure fires, 628 were due to “operating equipment,” 50 were exposure fires, and

268 were because of careless use of smoking materials or open flame devices (matches and candles). Fireworks were responsible for nine structure fires. “Other” sources of heat were attributed to 158 fire incidents and no cause was determined for 724 of the reported structure fires.

The most frequently determined cause of vegetation and other outside fires (371 fires) was careless use of smoking material or open flame devices. Another 713 vegetation fires were listed as “undetermined” while “hot or smoldering item” was the responsible cause in 295 reported fires. Fireworks caused 58 vegetation fires and one mailbox fire.

Of the 1,911 reported vehicle fires, 543 were due to “operating equipment” and six were because of fireworks. “Open flame or smoking materials caused 53 fires while another 125 were the result of hot or smoldering material. No cause was determined for 979 vehicle fires.

In a total of 9,552 reported fire calls, a cause determination was made in 6,946 incidents and of that number more than 3,400 were found to be either “undetermined” or “heat source, other.”



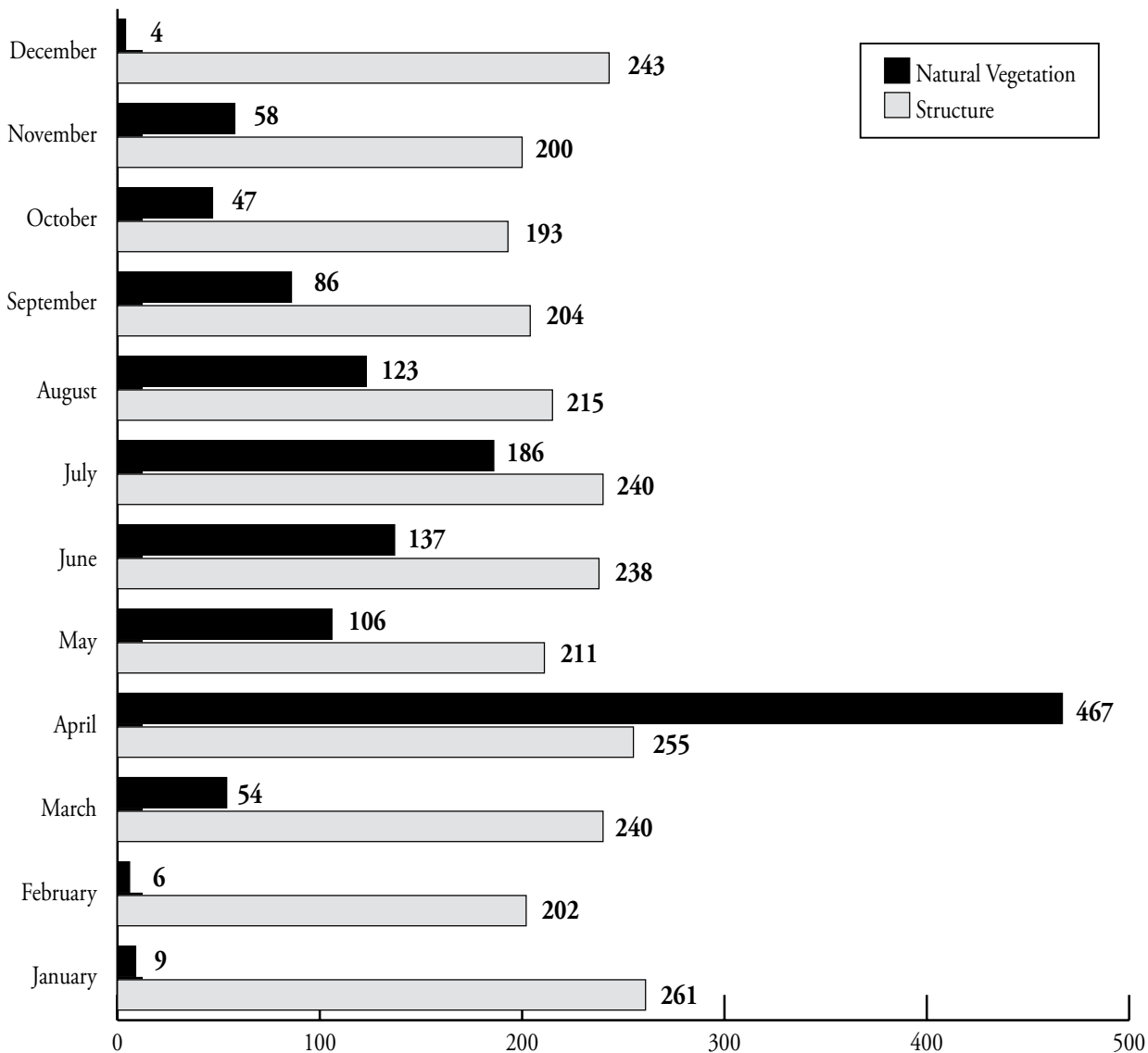
Structure and Vegetation Fires by Month

In 2005, there were 1,283 vegetation and brush fires reported with the majority – 467 fires – reported in April. This was a decrease of more than 300 fires from 2004. According to the data, 94 fires were found to be intentionally set and only three fires were attributed to acts of nature.

The small number of vegetation fires in December (five) and January (nine) were because of snow cover. Of the five December fires where a cause was determined, three were intentionally set.

Vegetation and brush fires were down by more than 300 fires from 2004.

Structure fire counts were fairly even throughout 2005 with a high of 261 fires in January and a low of 193 in October. April recorded the largest number of intentional fires at 14.



Incidents by month

June and July were the busiest months in 2005 for fire departments with 10,874 and 10,185 incidents reported respectively. The fewest calls were reported in February (8,774) and March (8,717).

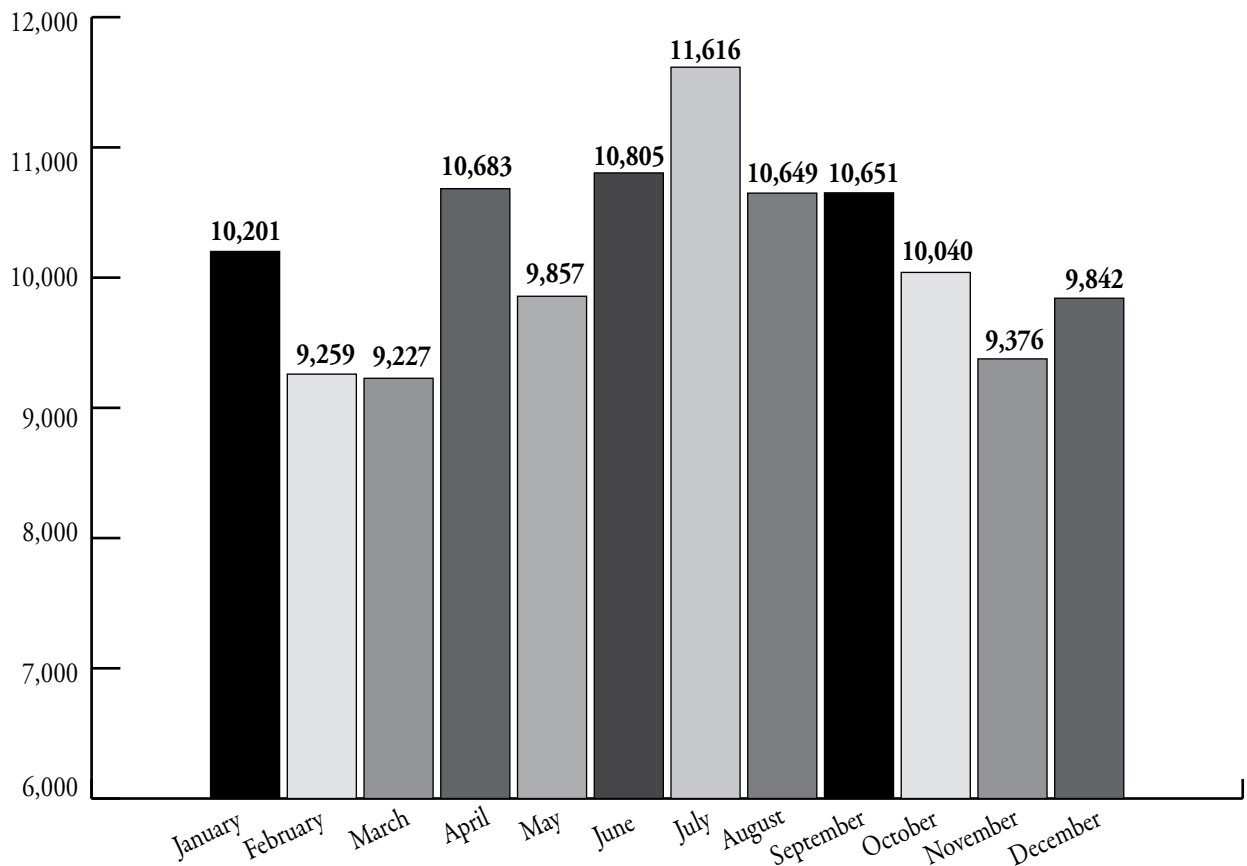
In June, 191 structure fires, 189 vehicle fires, and 174 vegetation fires were reported. Also reported were 6,224 EMS-related incidents including 425

vehicle accidents with injury and 69 extrication responses. July saw 201 structure fires, 208 vehicle fires including seven water craft and five recreational vehicle fires, and 174

July 2005 had the most rescue/EMS calls with 6,577 and November the fewest with 5,332.

vegetation fires. More than 6,570 rescue/EMS incidents were reported with 79 calls for extrication and 443 vehicle accidents with injuries.

The fewest structure fires (143) were reported in February with January reporting the most structure fires (206). Passenger vehicle fires were highest in July (151) and August (146). Overall, April had the most fires of all types (1,507) and February the fewest fires (522). November saw the fewest rescue/EMS calls with 5,332 and July the most with 6,577.

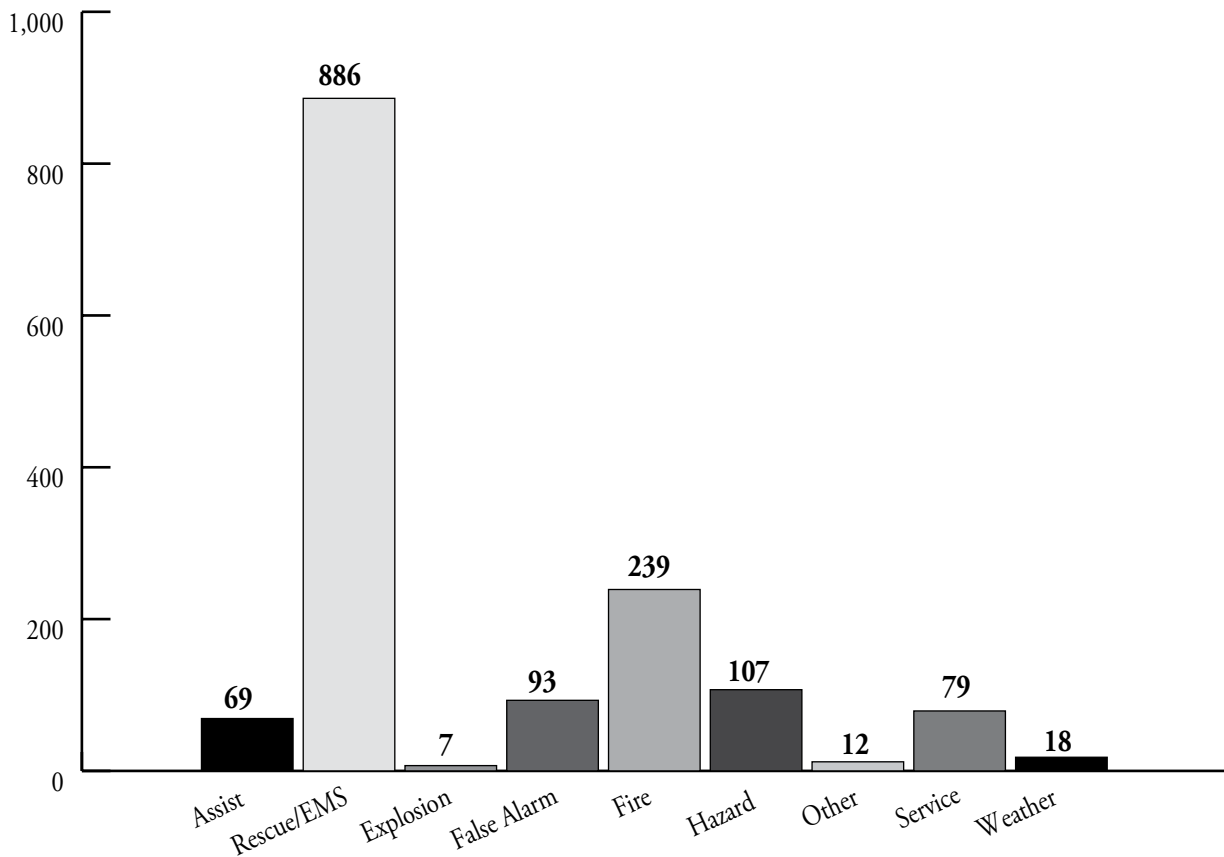
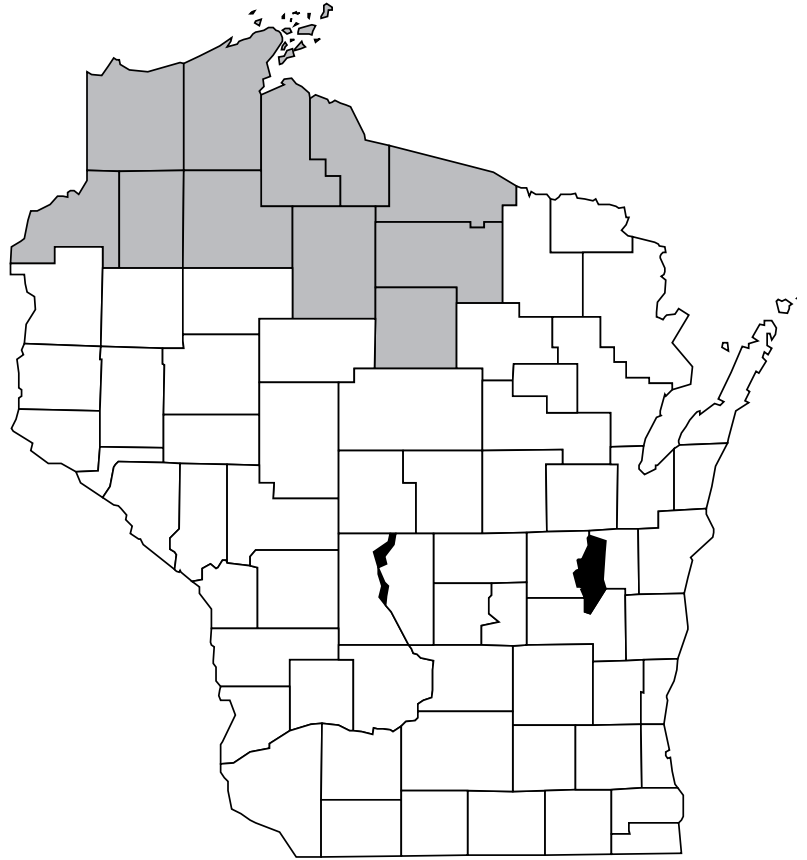


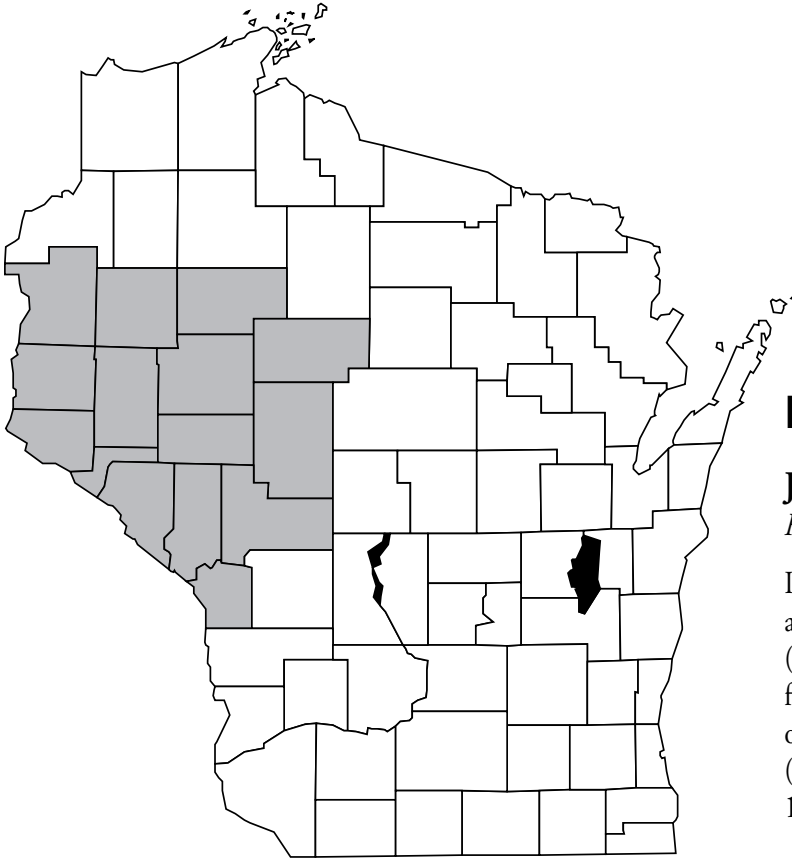
District 1

Dave Bruflat

Fire Prevention Coordinator

In northwestern Wisconsin, 35 fire departments reported a total of 1,510 incidents. The largest number of calls (886) was for rescue/EMS assistance followed by 239 fire calls. In District 1, the two most frequent types of fire calls were structure fires (119) and vegetation fires (62). Assistance and service calls accounted for another 148 responses.



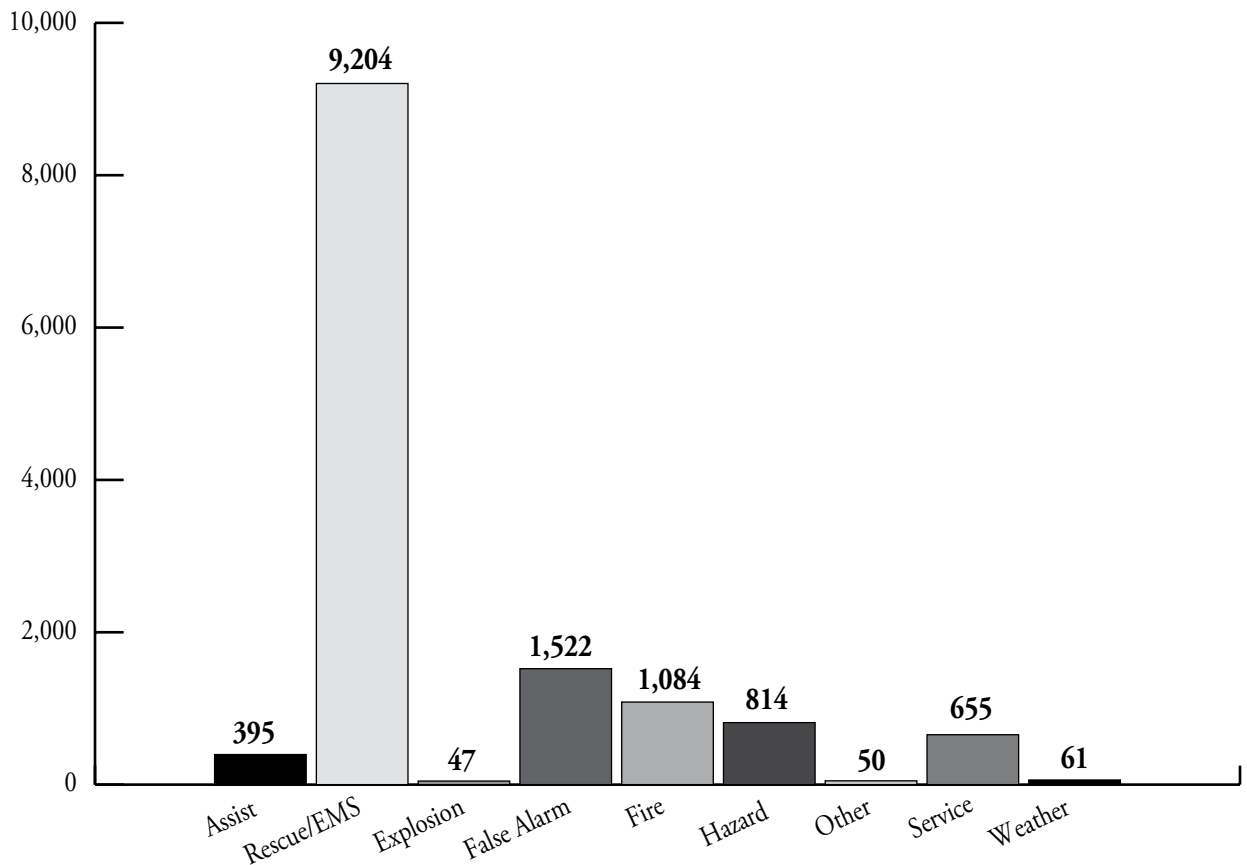


District 2

John Andersen

Fire Prevention Coordinator

In west central Wisconsin, 50 fire departments reported a total of 13,832 incidents. The largest number of calls (9,204) was for rescue/EMS assistance followed by 1,522 false alarms. In District 2, the two most frequent types of fire calls were structure fires (539) and vegetation fires (292). Assistance and service calls accounted for another 1,050 responses. Also, 814 hazard incidents were reported.

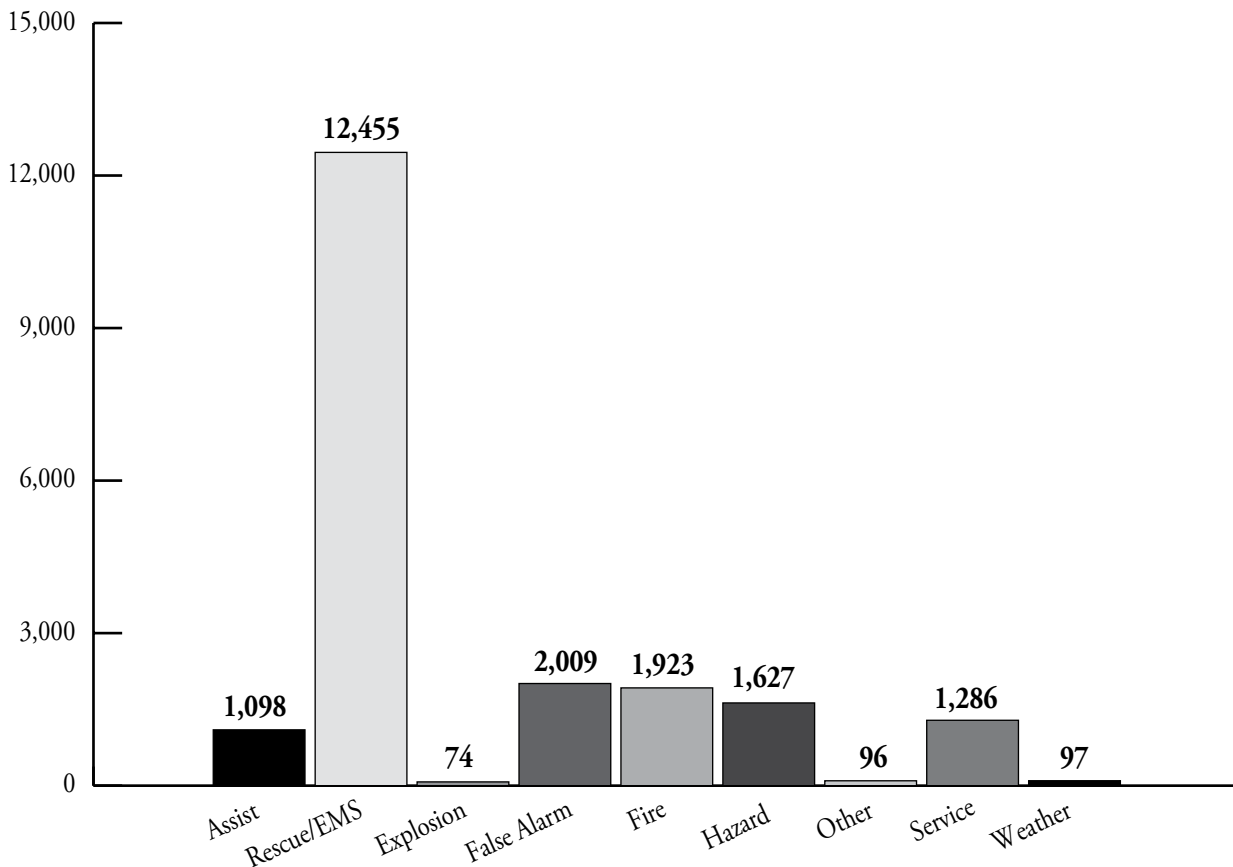


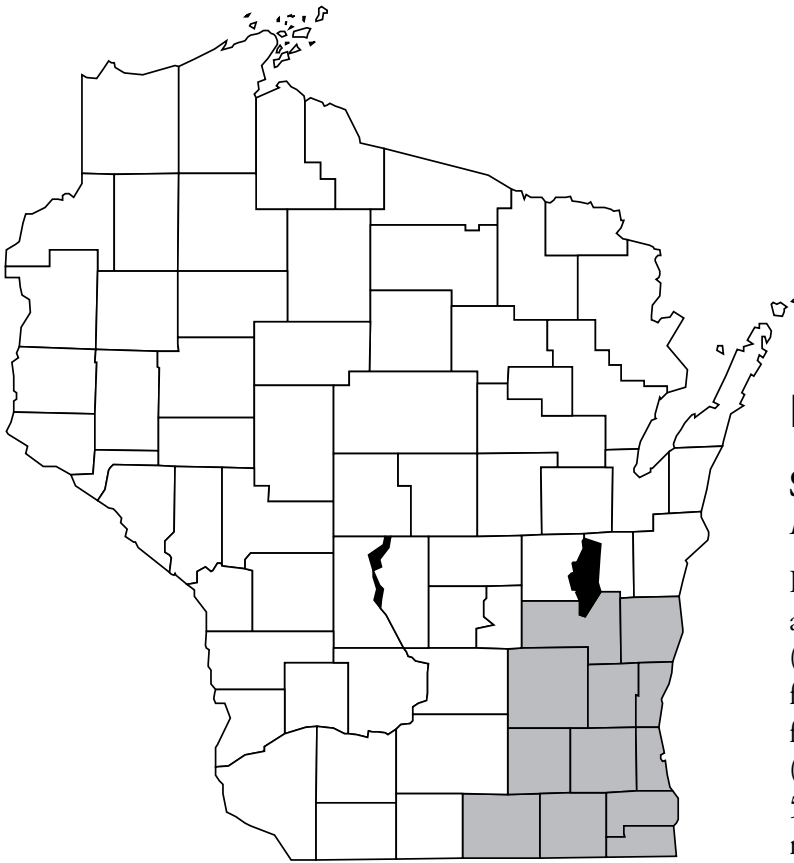
District 3

Carl Frisque

Fire Prevention Coordinator

In northeastern Wisconsin, 103 fire departments reported a total of 20,665 incidents. The largest number of calls (12,544) was for rescue/EMS assistance followed by 2,009 false alarms. In District 3, the two most frequent types of fire calls were structure fires (1,147) and vegetation fires (469). Assistance and service calls accounted for another 2,384 responses. Also, 1,627 hazard incidents were reported.



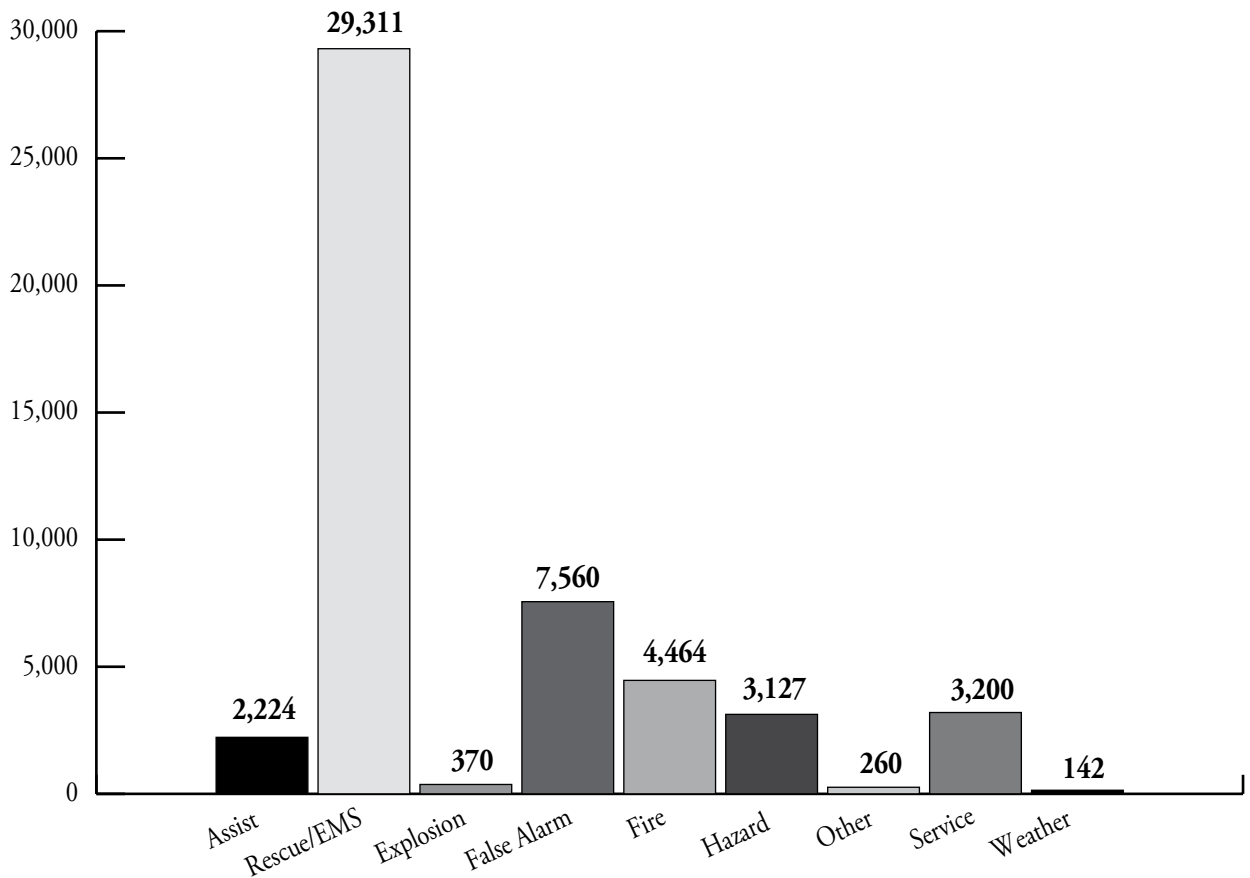


District 4

Sue Birren

Fire Prevention Coordinator

In southeastern Wisconsin, 112 fire departments reported a total of 50,658 incidents. The largest number of calls (29,311) was for rescue/EMS assistance followed by 7,560 false alarms. In District 4, the two most frequent types of fire calls were vegetation fires (1,583) and structure fires (1,094). Assistance and service calls accounted for another 5,464 responses. Also, 370 explosion incidents were reported.

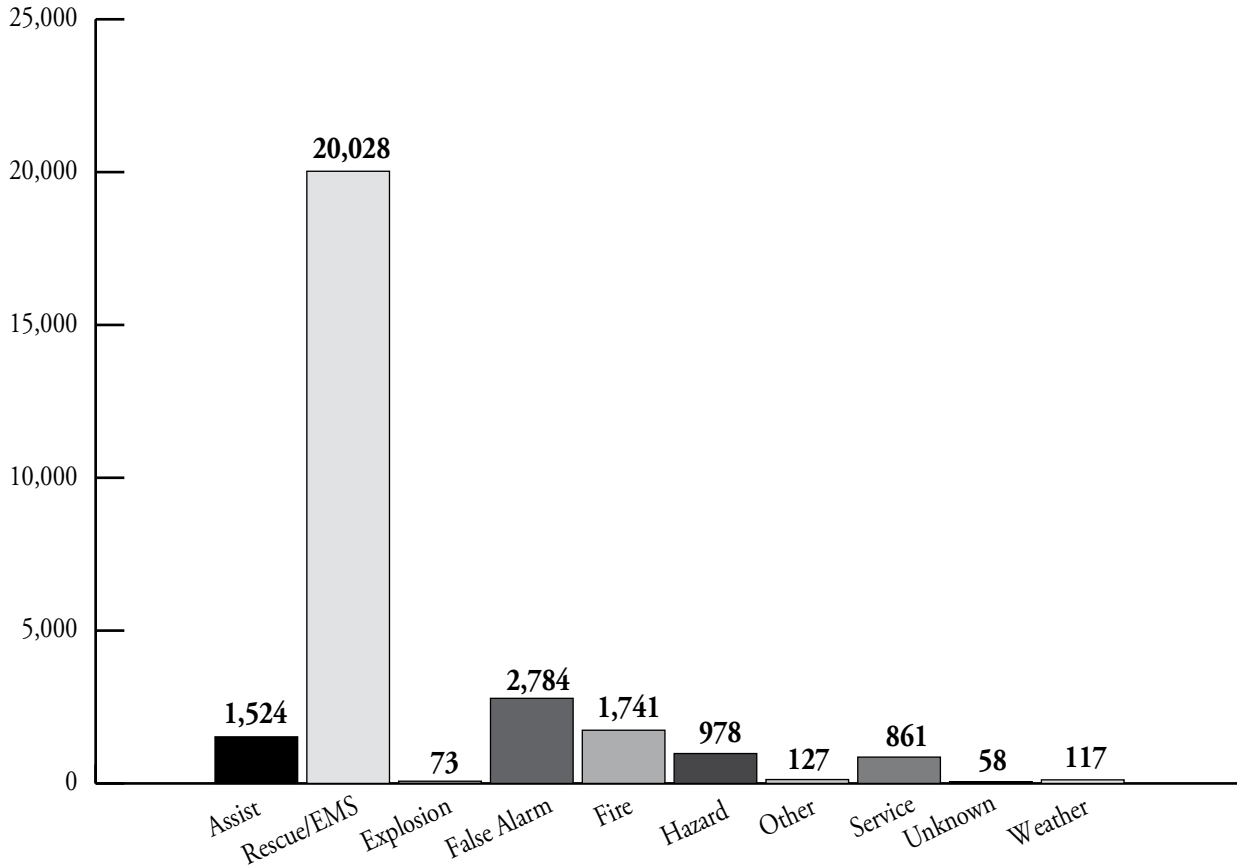
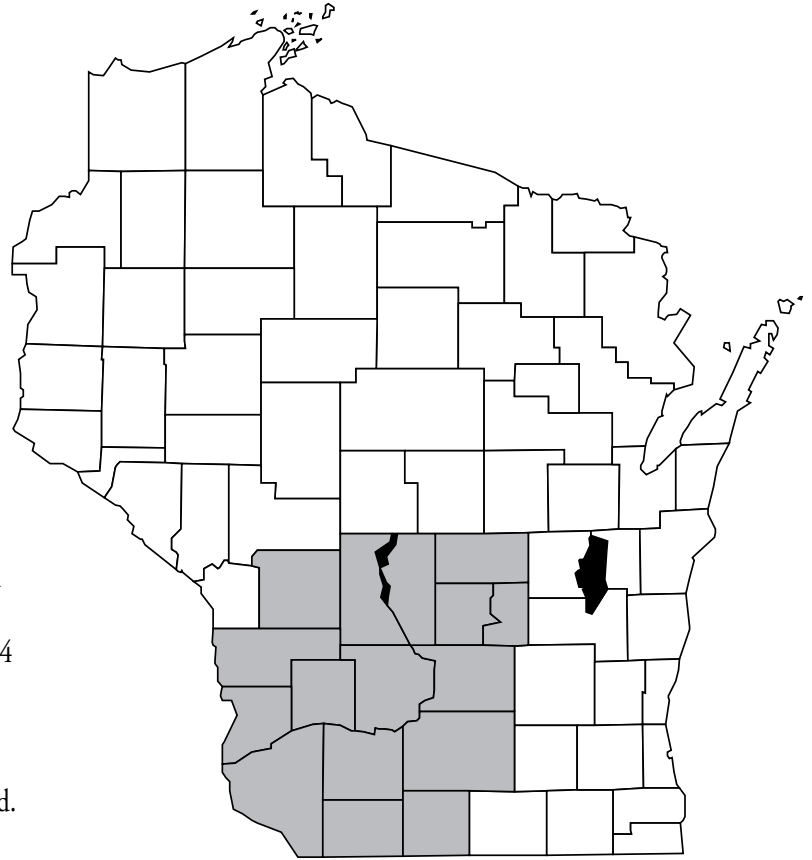


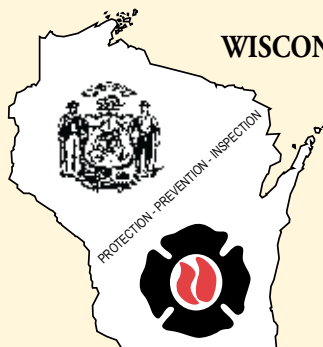
District 5

Terry Nolen

Fire Prevention Coordinator

In southwestern Wisconsin, 83 fire departments reported a total of 28,291 incidents. The largest number of calls (20,028) was for rescue/EMS assistance followed by 2,784 false alarms. In District 5, the two most frequent types of fire calls were structure fires (760) and vegetation fires (468). Assistance and service calls accounted for another 2,385 responses. Also, 978 hazard incidents were reported.





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