





## *Mission*

Protecting citizens, their property  
and the environment from fires  
and hazardous materials.

## *Vision*

Premier public safety services for Oregon

## *Values*

### **Dedicated to Mission:**

We believe our  
mission is worth  
the effort to accomplish.

### **Leadership:**

We build and foster an environment for success,  
internally and externally.

### **Proactive Customer Focus:**

Customers' needs for safe communities  
are our priority.

### **Competence:**

We are able to meet our mission,  
today and tomorrow.

### **Credibility:**

Our performance inspires others  
that our mission is valuable.

### **Collaboration:**

We partner and work with others  
to achieve our goals.

### **Trust:**

We expect ourselves, our partners  
and each other to be competent,  
reliable and sincere.

### **Statutory Authority**

Oregon Revised Statutes:  
Chapters 336, 453, 470,  
476, 478, 479, 480

Oregon Administrative Rules:  
Chapter 837



**A classic quote states: "It's amazing how much can be accomplished when no one cares who gets the credit."**

That's certainly true, but once accomplishments are achieved I believe credit should be given to whom it belongs.

In reading this report, you will notice the importance of partnerships in the success of many of our accomplishments.

Legislative collaboration with fire service policymakers resulted in Oregon's fire-safer cigarette law; a resolution establishing January 27 of each year as Fire Service Appreciation Day; and a law allowing volunteer fire officials to accept tokens of appreciation from the public.

A partnership with the Oregon Life Safety Team, Bend Fire Department and Oregon Volunteer Firefighters Association allowed us to develop a fire service toolkit and educational materials for Fire Prevention Week. We also partnered with Fire Safe Children and Families, the Oregon Burn Center and others to sponsor a successful juvenile firesetter intervention conference.

OSFM deputies in Eastern Oregon partnered with the Oregon Department of Forestry and community leaders in Juntura to create a rangeland protection district. Deputies also worked closely with Linn County Planning and Building officials, the Halsey-Shedd Fire Department, Oregon Parks Department and others to enable the scheduled opening of Oregon's newest state park, the Thompson's Mills State Historic Park.

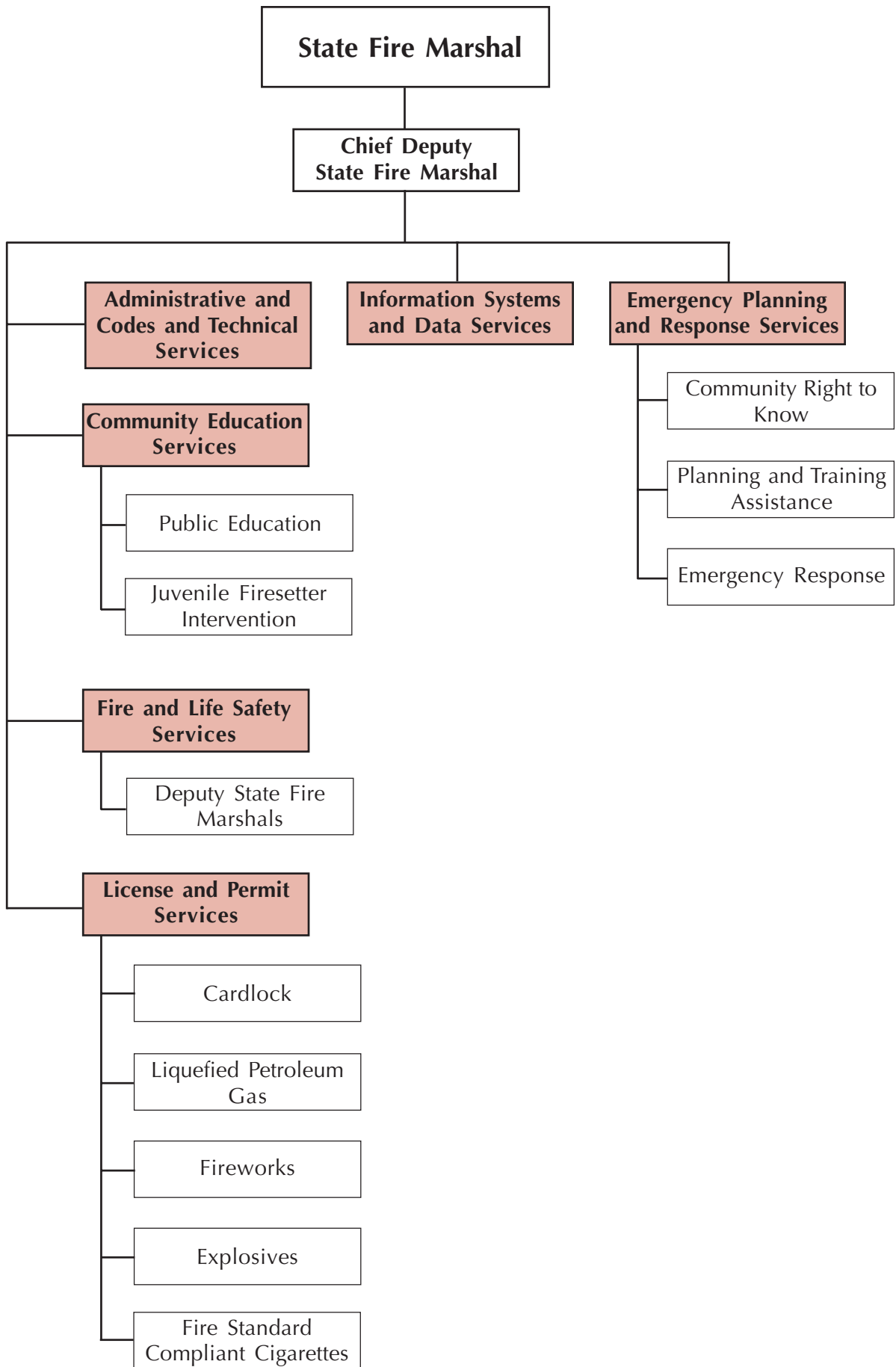
Our License and Permit Services unit worked with officials from the Bureau of Alcohol, Tobacco, Firearms and Explosives to streamline state and federal explosives requirements and create a smooth transition from state to federal oversight.

The OSFM Red Incident Management Team received praise for their close collaboration with state and local officials in assisting with Vernonia flood recovery efforts.

This office would not be as successful without the willing partnerships from members of the Oregon fire service, stakeholders, and other local and state organizations. Thank you all. May we continue our relationships for the benefit of all Oregonians.

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# Administrative and Codes and Technical Services

Division-wide support and fire code administration

Administrative Services provides division-wide support in administrative rules, legislative tracking, adoption and interpretation of the state fire code, administration of the State Fire Net, records management, fire service mobilization support, and administrative support to the Governor's Fire Service Policy Council, and the Oregon Fire Code Committee. For more information, visit [http://www.oregon.gov/OSP/SFM/Admin\\_Services\\_2007.shtml](http://www.oregon.gov/OSP/SFM/Admin_Services_2007.shtml).

Codes and Technical Services promotes the application and use of uniform fire and life safety codes through code development and adoption, code interpretation, technical research, and legislative input. Staff partner with the State Building Codes Division, local jurisdictions, and industry stakeholders to maintain consistent fire code administration, review plans, and issue installation approvals for above ground flammable and combustible liquid tanks and tanks for liquefied petroleum gas. For more information, visit [http://egov.oregon.gov/OSP/SFM/Codes\\_2\\_New.shtml](http://egov.oregon.gov/OSP/SFM/Codes_2_New.shtml).

## 2007 Accomplishments

### Oregon Fire Code

In 2007, staff collaborated with the International Code Council (ICC) to allow the adopted Oregon Fire Code to be available to all fire departments and the general public via a web link on the ICC website. The code is available as a read-only document.

### International Code Council Committee

The International Code Council Western/Canadian Code Action Committee reappointed Oregon Deputy State Fire Marshal John Caul as one of two western region representatives. Caul serves as representative of the National Association of State Fire Marshals.

### Newest exempt jurisdiction

The OSFM Exempt Review Committee recommended approval of Jackson County Fire District #3's (JCFD) request to become an exempt jurisdiction. In April, JCFD #3 became Oregon's ninth exempt jurisdiction.



Oregon State Fire Marshal Nancy Orr (center) presents a certificate of exemption to JCFD #3 Board President Lois Wilson (right) and Division Chief/Fire Marshal Ken Johnson

### **Fire Marshals Round Table**

Deputy State Fire Marshal John Caul, with assistance from Administrative Specialist Pat Carroll and the Oregon Fire Marshals Association, coordinated the annual Fire Marshals Round Table in October. In addition to featured presentations on *Who, What, Where, When, & Why of Health Care Deputies* and *The Role of Testing and Certification Agencies*, open forum topics included:

- Review of Building & Fire Official Authority
- New 2007 OFC Appendix B
- Recording Process of Alternate Methods
- Schools & Class K Extinguishers
- NFPA 1142, Subdivisions & Storage Facilities
- Fog-Emitting Burglar Alarms
- Re-Inspection Fees
- Evacuation from Multi-Story Assisted Living Facilities
- SR Appendix & ICC Health Care Proposal Updates
- Apartment Smoke Alarms

### **Governor's Fire Service Policy Council (GFSPC)**

Staff provide administrative support to the GFSPC. The council's charter is to provide advice and guidance on issues of common interest, policies and affairs that affect the fire protection and life safety of the citizens of Oregon. In December, George Warren, representing the Oregon Fire District Directors Association, was elected council chair, succeeding Gary Marshall. Scott Mullen, representing the Oregon Volunteer Firefighters Association, was elected vice chair. Mullen succeeded former Vice Chair Ron Murray. Additionally, three GFSPC members' terms expired. Eric McMullen replaced Gary Marshall to represent the Oregon Fire Marshals Association; John Stein replaced Ron Murray to represent the General Public; and Kelly Bach succeeded Pat West to represent the Oregon State Firefighters Council.

During 2007, council challenges and accomplishments included:

#### ***Incident Management Team (IMT) Qualification Standards***

This goal is to standardize the qualifications and training of the all-hazard IMTs. A work group with representatives from the Department of Public Safety Standards and Training (DPSST), Oregon

Department of Forestry, Oregon Fire Chiefs Association, Oregon Fire District Directors Association, Oregon Emergency Management and the Pacific Northwest Wildfire Coordination Group identified training and qualification standards for type 1, 2 and 3 IMTs for adoption by DPSST. Their September final report:

- recommended standards for Type 2 and Type 3 IMTs;
- asked DPSST to identify and design instruction method and certification for Type 3 requirements;
- asked DPSST to develop a crosswalk between existing Incident Command Structure (ICS) classes and the Federal Emergency Management Agency's all hazard ICS classes;
- identified a second group of statewide stakeholders, with jurisdictional response for all-hazard events, recommending they create a method for all of these responders to work and train under the recommended qualifications for incident response personnel.

#### ***Code 3 / At Fault Best Practices***

In 2006, a task force recommended the need for standard guidelines and training covering:

- investigation of all Code 3 crashes;
- consistent crash investigation and reporting policies,
- regular collection and review of crash statistics,
- initial and ongoing training for emergency vehicle operators, and
- appropriate guidance and related educational initiatives for citizen drivers.

As a result of these recommendations, in 2007 the council chartered two working groups to:

1. define the parameters for a report from Department of Motor Vehicles and insurers and develop best practices for emergency drivers, naming it the Code 3 Emergency Responders Task Force, and
2. initiate training and public education for citizen drivers, the Code 3 Citizen Drivers Education Task Force.



### ***Proposal to mitigate structural fire protection risks on or near forest lands***

Structural fire representatives have been active on the Oregon Department of Forestry's (ODF) forestland classification review. Logged forestlands have become urban, yet remain classified as forestland. ODF combines forestland assessments and the state's general funds to administer forest functions and timber fire suppression. The council supported three goals, including:

- reduce structural fire risk in interface areas;
- give structural fire jurisdictions with forestlands a voice in interface fire protection policy and budget;
- provide a funding source for the governor-declared Conflagration Act costs.

### ***Appendix P Amendment to 2008 Oregon Residential Specialty Code***

The council supports an avenue for local municipalities to require installation of residential sprinklers in new homes. The Oregon Residential Specialty Code regulates local building jurisdictions and, as proposed by the Residential Code Review Committee, would not allow a municipality or county to be more restrictive than the State of Oregon. If adopted by the state, Appendix P would allow local municipalities the choice to adopt a residential sprinkler requirement for new homes.

Collaborative efforts of the Oregon Fire Safety Coalition, including the GFSPC, united the fire service to educate and persuade the Residential Structures Board to adopt Appendix P. On behalf of the GFSPC, Chair Gary Marshall sent a letter to Governor Kulongoski asking for his support to adopt Appendix P as part of the Oregon Residential Specialty Code.

### ***Informational reports***

Other issues reviewed by the council included:

- **Insurance fire sprinkler survey**  
The GFSPC reviewed results of a survey by the Office of State Fire Marshal (OSFM) on insurance premium discounts offered by Oregon insurance companies for residential sprinklers. Results indicate most Oregon insurance companies provide discounts.

- **Voluntary state standard for firefighter entry physical fitness testing**

The council was asked to propose a minimum standard for physical fitness testing and discussed the need for training, education, record maintenance and incumbent testing. While fitness testing is a fire service issue, the testing equipment is very expensive. Most fire departments don't have the funding for it. The cost prohibitive nature of the issue led the council decision not to task this out.

- **Fire sprinklers in manufactured housing**

Burton Weast and a representative of the manufactured housing industry requested the council implement residential sprinklers into manufactured housing via the assembly line. Research and review of the industry and its practices resulted in halting the project. Feasible implementation included challenging choices: 1) the industry standards would require an amendment of state statute to allow sprinklers to be installed by unlicensed plumbing installers, or 2) have the federal Housing and Urban Development (HUD) agency adopt an optional standard for customers who want sprinklers. The council did not support the recommended statute change and the cumbersome process for an optional national standard through the HUD adoption process weighed against continued support for the project.

- **Governor's Fire Service Summit**

Summit organizer and Portland Community College Fire Instructor, Ed Lindsey, asked the council to support future events. The council discussed pros and cons of the event and concluded the summit would not be an annual event. The new council will review the need and interest for a 2008 Governor's Fire Service Summit.

### **Revised State Fire Service Mobilization Plan**

Led by Chief Deputy State Fire Marshal Randy Simpson, a task force reviewed and streamlined the *State Fire Service Mobilization Plan*. The revised plan is available to all Oregon fire departments and districts. Contact the OSFM for more information.



## 2007 Legislative Session

The Office of State Fire Marshal, in collaboration with fire service policymakers, produced significant results during the 2007 Legislative session. Of the 50 bills tracked by the Office of State Fire Marshal, eight Senate bills and 10 House bills were signed by the governor. Successful bills include:

**HB 2163:** Governor Ted Kulongoski signed House Bill (HB) 2163 requiring all cigarettes sold in Oregon to be self-extinguishing. The bill promises to reduce the number of cigarette-caused fires and became effective upon signing. The bill drew praise throughout the session as one of Oregon's premier bills.

**HJR 25:** This resolution established January 27 of each year as Fire Service Appreciation Day and encouraged citizens to recognize and honor Oregon fire service members.

**HB 605:** Support from the Office of State Fire Marshal helped the efforts of Oregon's chimney sweeps to require construction licensing and standards be applied to any business engaged in the cleaning or servicing of chimneys.

Other legislative bills passed through the efforts of structural fire service partners.

**HB 2595 and SB 10:** Oregon Fire District Directors Association Executive Director and chief lobbyist Genoa Ingram concentrated on HB 2595 and SB 10 which allowed volunteer fire officials to receive tokens of appreciation from the public. The bill stipulates gifts valued at more than \$15 must be reported to the Ethics Commission.

The American Federation of State, County and Municipal Employees, Philip Morris, the insurance industry lobby and the International Association of Arson Investigators also supported fire service interests from fire-safer cigarettes to budget and fire insurance premium tax allocations.

For more information on Oregon fire service legislation, visit [http://www.oregon.gov/OSP/SFM/2007\\_Legis\\_Wrap\\_Up.shtml](http://www.oregon.gov/OSP/SFM/2007_Legis_Wrap_Up.shtml).

### Lake Labish Elementary School partnership

The OSFM's support for the Lake Labish Elementary School continued with participation in several successful events. Employees participated in Dr. Seuss's Birthday 'Read Across America' day by reading to or listening to a student read one-

on-one. Ongoing fundraising projects and employees' personal donations provided funds for:

- a read-a-thon,
- back-to-school supplies from the teachers' wish list,
- an interactive play by a local theater troupe,
- Thanksgiving food baskets delivered to students' families by employees, and
- Christmas gifts delivered to the children of several families.

A game night at OSFM was a bonding event for both OSFM employees and teachers from the school who enjoyed an evening of fun, games and food.

The OSFM annual holiday luncheon sparkled with the voices of the school choir. Everyone was touched by the youngsters' smiling faces and sweet voices. Following their performance, the choir students were treated to a visit from Mrs. Santa. It was rewarding for OSFM employees to connect with these students. For many of the OSFM staff, the event was their first encounter with the students supported through the business partnership.

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## Administration and Code and Technical Services staff



Back row, left to right: John Caul, Sue Garfoot, Donna Disch, Pat Carroll, Randy Simpson; front row: Laura Drager, Nancy Orr

# Community Education Services

Fire safety education with a statewide focus

Community Education Services works toward reducing residential fire deaths, injuries and property loss through the development and distribution of model programs and resource materials, and by providing fire safety information, emergency response, and wildfire mitigation resources to the public and local fire safety partners. The unit operates programs in community education, juvenile firesetter intervention and wildland urban interface, and is responsible for agency-wide public relations and information. For more information, visit [http://egov.oregon.gov/OSP/SFM/Community\\_Education.shtml](http://egov.oregon.gov/OSP/SFM/Community_Education.shtml).

## 2007 Accomplishments

### Fire Prevention Week theme: *Plan your Escape*

The Office of State Fire Marshal (OSFM) partnered with the Oregon Life Safety Team, Bend Fire Department and Oregon Volunteer Firefighters Association (OVFA) in developing and distributing materials for Fire Prevention Week 2007.

More than 150 fire departments, districts and community partners received toolkits containing radio and television public service announcements on smoke alarms and *Plan Your Escape* flyers. Participating departments and districts distributed more than 65,000 *Plan Your Escape* flyers statewide.

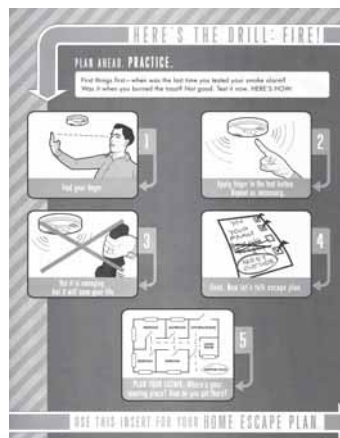
Using funds from a United States Fire Administration (USFA) Assistance to Firefighters Grant, the OVFA coordinated the distribution of *Plan Your Escape* flyers in more than 58 Oregon newspapers reaching an estimated 240,000 Oregonians.

### Toylike (novelty) lighter campaign

The OSFM's campaign requesting the U.S. Consumer Product Safety Commission (CPSC) to re-evaluate safety standards on toylike (novelty) lighters continued to gain momentum and support from across the nation.

- The USFA announced support of the campaign on their website.
- Representatives from Delaware, Massachusetts, Maine, California, Arkansas, Virginia, New York, Kansas and Iowa requested information and assistance from Community Education Services on laws and ordinances to ban toylike lighters.
- The OSFM partnered with Richard Lambert of the Idea Bank to develop and distribute a video public service announcement (PSA) on toylike lighters. The PSA featured Oregon State Fire Marshal Nancy Orr. A web site to download the PSA included a data collection sheet for fire departments throughout the United States to use to submit toylike lighter incident data to the OSFM. The OSFM continues to gather the data and submit it to the CPSC.

*Plan Your Escape* flyer, front view



- Posters were distributed highlighting the dangers of toylike lighters to 586 pediatricians and 36 health departments throughout Oregon.

**Toylike lighter poster distributed to pediatrician and health departments in 2007**



- Staff established a partnership with the Congressional Fire Service Institute to organize national associations and the Caucus to encourage the CPSC to prohibit the sale and distribution of toylike lighters in the United States.

### Juvenile firesetter intervention conference

The Community Education Services, in collaboration with the Fire Safe Children and Families Program, the Oregon Burn Center, the Denver Children's Hospital and the San Diego Burn Institute sponsored *Cultivating Partnerships II*, a juvenile firesetter intervention conference in Portland. More than 180 people attended, coming from 15 states, Canada and Australia. Expert presenters covered intervention, screening, therapeutic games, deception detection, cultural differences, bullying, burn center programs,

special needs populations, interviewing techniques and working with caregivers.

Timothy O'Dowd from the USFA provided a national perspective on juvenile firesetting and recognized the Oregon program as one of the leaders in the field. Oregon State Fire Marshal Nancy Orr recognized OSFM Training and Development Specialist Carol Baumann for her outstanding work as editor of the *Hot Issues* newsletter, a quarterly publication on juvenile firesetter intervention issues. National Fire Protection Association Education Board Chairman Paul Schwartzman recognized *Hot Issues* as the premier and the first national publication in the field of juvenile firesetting.

### New multi-hazard house

The Community Education Services purchased a new multi-hazard house trailer and made it available for loan to Oregon fire departments and districts. The mobile prop is an educational aid allowing participants (especially children) to learn and practice:

- fire prevention,
- fire safety,
- calling 9-1-1,
- correct smoke alarm response,
- safe exiting procedures, and more.

The multi-hazard house can also be used to demonstrate the effectiveness of a home fire sprinkler system.



Over 1,200 students have been through the multi-hazard house at different events since fall 2007.



### OSFM's quarterly newsletter, *Hot Issues* covers juvenile firesetter topics

### Community door-to-door smoke alarm program

In partnership with the Oregon Life Safety Team, the OSFM developed a model community door-to-door smoke alarm campaign kit. Community-based door-to-door smoke alarm campaigns are an effective method for reaching residents who haven't responded to previous education efforts to change attitudes and behaviors regarding proper smoke alarm maintenance and home fire safety.

The community door-to-door smoke alarm campaign kit includes step-by-step instructions for campaign planning, recruiting community partners, and campaign implementation and evaluation as well as material templates. OSFM conducted workshops to familiarize attendees with the elements of the kit, learn to identify steps of a successful campaign and develop an action plan for conducting their own community door-to-door smoke alarm campaign.

### **Multi-Family housing fire safety**

Unit staff and the Oregon Life Safety Team partnered with Tualatin Valley Fire & Rescue, to present a train-the-trainer workshop on a multi-family housing fire reduction program to representatives from 18 fire departments from across the state. The training assists agencies desiring to provide fire and life safety training for apartment managers.

### **Wildfire Awareness Week**

Staff collaborated with the Oregon Department of Forestry (ODF) Wildfire Structural Committee, the Institute for Business & Home Safety and the Federal Alliance for Safe Homes, to design a Wildfire Awareness Week toolkit for all Oregon fire departments and districts. Wildfire Awareness Week, May 6-12, 2007, highlighted the use of fire-resistant building materials in remodeling and

new construction, in addition to promoting the use of fire-resistant plants in landscaping.

The toolkit included a model proclamation, a news release, two safety cards, radio public service announcements and an order form for free supplemental printed material and videos. The OSFM distributed 430 toolkits, over 20,000 brochures and newsletters and 58 video compact discs.

Staff worked with a manufacturer to design Oregon-specific Wildland Fire Hazard Simulator displays. Five displays were purchased and given to ODF to place in communities with a high risk of wildfire to educate home owners on steps to take to reduce the structural ignitability of their property.



**Klamath County Fire District #1 Division Chief Monte Keady points out features of the Wildland Fire Hazard Simulator during Fire Service Day at the Capitol, May 2007**

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## **Community Education Services staff**



**Back row, left to right: Judy Okulitch, Candice Clark; front row: Rich Hoover, Manager Tari Glocar, Nicole Ohmart, Colleen Olson, Carol Baumann, Stephanie Stafford**



# Emergency Planning and Response Services

Coordinating emergency response and promoting emergency preparedness

Emergency Planning and Response Services is comprised of two units – Emergency Response and Community Right to Know (CR2K). CR2K collects, validates and distributes information on hazardous materials in Oregon. CR2K also provides hazardous materials planning and response training assistance to all local and state agencies. For more information, visit [http://www.oregon.gov/OSP/SFM/CR2K\\_Home.shtml](http://www.oregon.gov/OSP/SFM/CR2K_Home.shtml). For more information on planning and training assistance, visit [http://www.oregon.gov/OSP/SFM/CR2K\\_Home.shtml#Planning\\_and\\_Training\\_Assistance](http://www.oregon.gov/OSP/SFM/CR2K_Home.shtml#Planning_and_Training_Assistance). Emergency Response coordinates the emergency response of OSFM's three incident management teams, 15 regional hazardous material emergency response teams and an urban search and rescue task force. For more information, visit: [http://www.oregon.gov/OSP/SFM/ERU\\_2.shtml](http://www.oregon.gov/OSP/SFM/ERU_2.shtml).

## 2007 Accomplishments

### Management consolidation

In April, the OSFM created Emergency Response Services to coordinate the emergency training and response of the three state Incident Management Teams (IMT), 15 Regional Hazardous Materials Response Teams and the Urban Search and Rescue Task Force. Staff continue to streamline and improve the processes in managing these critical resources.

### Hazmat Teams Conference

Unit staff conducted the first state Hazmat Teams Conference in May. More than 150 team members trained with response partners from around the state, including members of the Oregon National Guard 102<sup>nd</sup> Civil Support Team, Environmental Protection Agency and Burlington Northern Santa Fe Railroad.

### Top Officials Exercise

Emergency Response Services played a key role during the U.S. Department of Homeland Security Top Officials Exercise (TOPOFF) in October. TOPOFF is a series of seminars, planning events and exercises to strengthen the nation's ability to prevent, prepare for, respond to and recover from large scale terrorist attacks. During the exercise,

Emergency Response Services staff successfully integrated the state's Incident Management Teams, Regional Hazmat Teams and Urban Search and Rescue Task Force. It was the first time all three teams responded and deployed concurrently.



Oregon State Fire Marshal Urban Search and Rescue crews at work during TOPOFF 4

## Vernonia Flood Response

The OSFM Red Incident Management Team (IMT), with support from members of other IMTs, deployed to Vernonia in December to assist the town with flood recovery efforts. The IMT quickly established a unified command structure with officials from the local fire department and law enforcement agencies.

The IMT was integral in the restoration of basic life safety needs, medical supplies, public sanitation and debris removal.

The team demobilized after six days, when local officials were able to take over the recovery efforts. The six-day response phase was a dramatic improvement over the 3-4 week response phase during the 1998 Vernonia floods.



**From left: Incident Management Team Operations Chief John Ketchum, along with Department of Corrections Officer Steve Smith, IMT Operations Deputy Chief Doug Koellermeier and IMT Division Supervisor Scott Stutzman (partially obscured) organize inmate work crew schedules during the Vernonia flood recovery**

## Community Right-to-Know (CR2K)

One of the key purposes of the Community Right to Know Act is to provide emergency responders, emergency planners, government agencies and the general public with information about hazardous materials located in their communities. Since 1986, CR2K has collected this information using the Hazardous Substance Information Survey (HSIS). The survey is sent to covered employers, owners, and operators of fixed facilities where hazardous substances or wastes are likely to be manufactured, generated, used, stored, possessed, or disposed.

During the past year, 5,189 facilities were added to the statewide hazardous substance information survey database. The OSFM collected hazardous substance information from 56,263 facilities in Oregon. The unit continued to save time, resources and processing costs by increasing the

number of facilities submitting electronic rather than paper reports: 2,129 facilities submitted reports electronically.

Staff continued increasing the number of onsite facility audits. Out of the 2,949 audits, 292 were conducted on the facility's site.

CR2K staff responded to 8,042 calls to the Hazardous Substance Information Hotline assisting requestors with reporting requirements, hazardous substance possession fees, and other issues.

The database of Material Safety Data Sheets increased by 2,010 to 22,678. These sheets provide workers and emergency personnel with the proper procedures for handling or working with hazardous substances at a facility.

### Top ten cities surveyed

City	Number of facilities surveyed	Number of facilities reporting substances	Percent of facilities reporting substances	Total substances reported
Portland	9,560	3,357	35%	22,644
Eugene	2,732	999	35%	5,638
Salem	2,535	957	38%	6,003
Bend	2,173	575	26%	2,424
Medford	1,392	464	33%	2,808
Beaverton	1,294	378	29%	2,142
Hillsboro	1,184	412	35%	2,779
Grants Pass	1,046	324	31%	1,241
Roseburg	897	336	37%	1,556
Klamath Falls	874	377	43%	1,817

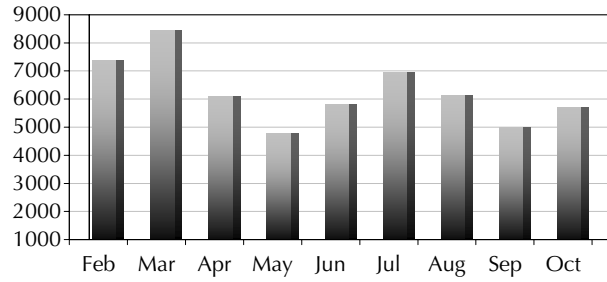
Of the cities receiving the most surveys, the table above shows the number and percentage of their facilities that reported hazardous substances, and the total number of substances reported per city.



### Monthly HSIS surveys

In 2007, CR2K staff mailed or sent electronically HSIS surveys to 56,263 facilities throughout the state.

Surveys sent by month

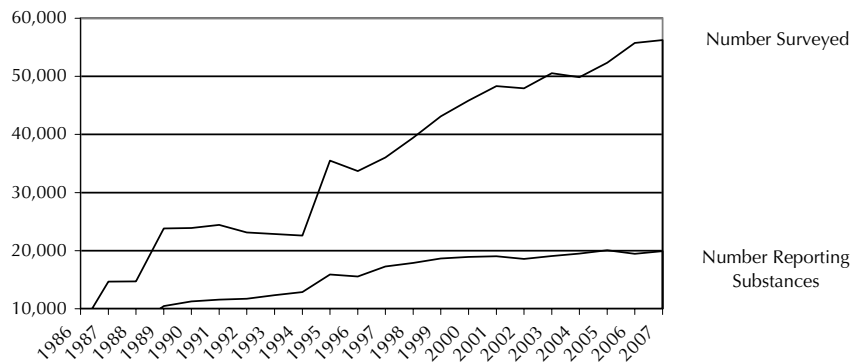


	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Count	7391	8449	6074	4762	5815	6957	6108	5003	5704

### Number of surveys vs. substances reported

Community Right-to-Know has been collecting information through the Hazardous Substance Information Survey since 1986. Since then, the number of facilities surveyed has grown from 6,694 to 56,263. During that time, the number reporting substances has leveled off at around 20,000.

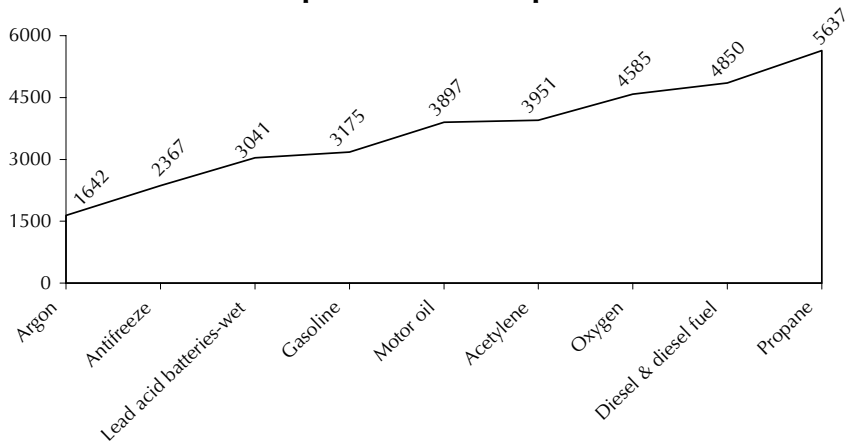
Surveys sent compared to surveys reporting substances



### Chemicals reported

The table at right shows the top 10 chemicals most frequently reported in Oregon.

Top 10 chemicals reported



### **Planning and Training Assistance**

Staff trained 46 emergency responders from five agencies on using the Hazardous Substance Information System.

Staff facilitated community emergency planning capability assessments with local and state agencies and hazardous materials facilities in seven counties.

Emergency Response Services distributed U.S. Department of Transportation Hazardous Materials Emergency Preparedness grant funds to provide hazmat safety training to 682 emergency responders in Oregon.

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## **Emergency Planning and Response Services staff**



**Back row, left to right: Evelyn Burdett, Shelly Kendrick, Tina Toney, Manager Sue Otjen, Mark Johnston, Mariana Ruiz-Temple, Bill Brauer, Chris Kuenzi, Bruce Armstrong; front row: Krista Fischer, Jackie Sparks, Alec Carte, Jim Mazza, Patty Stams, Judi Baker. Not pictured: Pat Reighard, Gordon Simeral, Jim Thaler, Jamie Kometz, Alan McMahan and Terry Wolfe.**

# Fire and Life Safety Services

Investigation, code enforcement and consultation

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Fire and Life Safety Services consists of 18 deputy state fire marshals, a compliance specialist, and staff who deliver services statewide through inspections, fire investigations, and coordination with community organizations, industry associations and local fire and building officials. For more information, visit [http://www.oregon.gov/OSP/SFM/FLS\\_New2007.shtml](http://www.oregon.gov/OSP/SFM/FLS_New2007.shtml).

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## 2007 Accomplishments

### Support to rural communities

The Office of State Fire Marshal (OSFM) continued its seven year partnership with the Oregon Department of Forestry (ODF), U.S. Forest Service, Bureau of Land Management, County Fire Defense Board Chiefs and private landowners to increase structural and wildfire protection in rural Oregon.

The OSFM and ODF worked with communities in unprotected areas of central and eastern Oregon to determine options for fire protection. The OSFM and ODF helped community leaders in Juntura, (Malheur County) create a rangeland protection district. Staff also worked with rural communities in Umatilla, Lake, Wasco, and Jefferson counties to develop rural fire districts or rangeland fire protection associations as appropriate.

Staff also provided public education information on smoke alarms, residential sprinklers, home safety survival and other fire prevention information to rural communities.

### Thompson's Mills retrofit

OSFM staff collaborated with the Linn County Planning and Building Department, Halsey-Shedd Fire Department, Oregon Parks Department, and Simplex-Grinnell Corporation to develop alternative fire protection methods to enable the opening of Oregon's newest state park, Thompson's Mills State Historic Site south of Albany. Plans by the Oregon Parks Department to convert the former flour mill into a museum would have required fire

protection modifications that were not feasible given the age and design of the building.

Under OSFM leadership, the partners established critical fire and life safety issues and goals and used engineering, technology and training to meet these goals. This efficient collaboration allowed the state park to open as scheduled in December 2007.

Solutions to the fire and life safety issues for Thompson's Mill included:

- installation of a very early smoke detection apparatus (VESDA®) system in lieu of automatic fire sprinklers),
- increased requirements for the ratio of staff to visitors,
- extra exits (all ADA ramped),
- emergency exit illumination,
- restricting visitor access to certain areas of the mill,
- staff training in fire safety and visitor management during emergencies.

### Fire and life safety awareness training and recognition

The OSFM continued its fire and life safety training and recognition efforts to increase consistent code enforcement and validate the competencies of Oregon fire service members. While deputy state fire marshals delivered most of the training in 2007, graduates of OSFM sponsored train-the-

trainer classes also conducted a number of company inspector classes. A contracted instructor taught three fire plans examiner classes.

### Fire and Life Safety Awareness training 2007

Type of Training	Classes	Students
Fire and Life Safety Awareness Module 1	35	203
Fire and Life Safety Awareness Module 2	18	87
Fire and Life Safety Awareness Module 3	18	96
Fire Plans Examiner Preparation	3	62
Company Inspector Train-the-Trainer	4	11
Company Inspection	16	146
<b>Total:</b>	<b>94</b>	<b>605</b>

### Recognition certificates issued 2007

Recognition Certificates Issued	Issued	with Fire Plans Examiner Endorsement
Company Inspector	146	N/A
Fire and Life Safety Specialist 1	7	2
Fire and Life Safety Specialist 2	5	3
Fire Marshal	26	15
<b>Total:</b>	<b>184</b>	<b>20</b>

### Health care inspections

Health care deputies and compliance specialists conduct federally mandated inspections in nursing homes, hospitals and ambulatory surgical centers. In 2007 the most common deficiencies included:

- Electrical - e.g. not providing approved multi-plug adapters and compliant electrical cords; having non-commercial grade small appliances (microwaves, coffee makers, etc.); not maintaining electrical wiring & equipment.
- Doors - e.g. corridor doors not able to close and latch; doors propped open (all relating to doors being capable of resisting the passage of smoke into the exit corridor).
- Maintenance of sprinkler systems - e.g. not performing annual or monthly system inspections, missing escutcheon rings, storage blocking sprinkler spray pattern.
- Fire drill training - e.g. inadequate staff training; not providing training at varied times; not documenting training.
- Emergency preparedness plans (EPP) - e.g. not having a complete EPP or EPP training, no relocation agreements for residents and staff.

Based on the most common deficiencies found in 2007, staff is revising the *Policies, Practices, & Procedures for Licensed Care Facilities* and is working with the Oregon Health Care Association to present training on preventing the most common deficiencies.

### Promoting residential sprinklers

OSFM partnered with the Southern Oregon Chapter of International Code Council to host a panel discussion and forum on the challenges and issues surrounding the National Fire Protection Association's 13D standard for sprinkler systems in one- and two-family dwellings. Topics and issues discussed included:

- plan reviews on 13D systems
- final inspections
- codes, covenants & restrictions, and deed restrictions
- fees for meters and back flow devices
- installation methods and challenges
- code conflicts between 13D and the International Plumbing Code
- work process flow charts
- combination systems vs. stand-alone systems
- cost per square foot issues

The forum included 55 representatives from the construction trades, home builders, architects, design specialists, fire inspectors, building inspectors, and plan reviewers.

## Fire and Life Safety Services staff



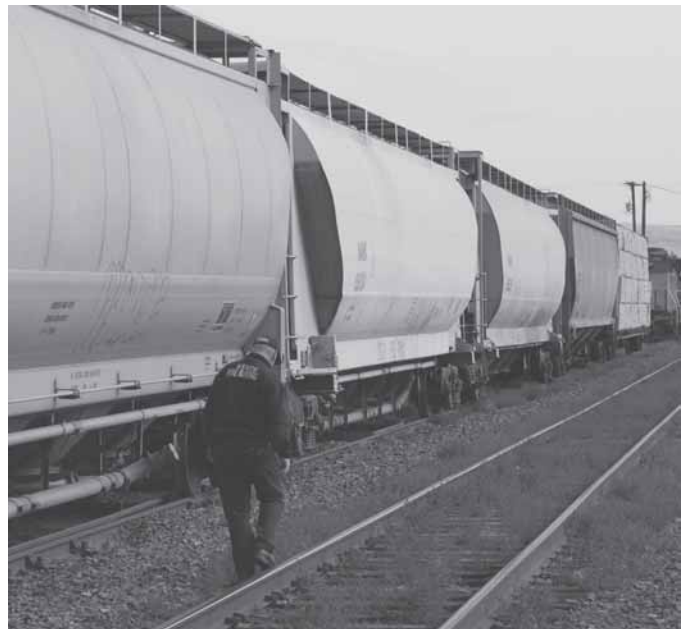
Left to right: Sandi McClaughry, Manager Stacy Warner, Gayle Johnson, Connie Dalke. Not pictured, Mary Olson.

**Deputy State Fire Marshals Michelle Stevens (back to camera) and Charlie Chase investigate a fatal fire at an RV park in Shady Cove, Oregon (Jackson County). Cause was listed as undetermined.**



**Deputy State Fire Marshal Brian Huff inspects the charred attic of a home near Bend, Oregon (Deschutes County). Cause was listed as intentional.**

**Deputy State Fire Marshal Scott Goff looks for clues while investigating a 2,600 acre grass fire near Rieth, Oregon (Umatilla County). Cause was determined to be accidental from hot debris falling from a passing locomotive.**





# Deputy State Fire Marshals



## Northwest Region



Left to right: Ted Megert, George Crosiar, Dan Jones, Supervising Deputy Dave Jones, Paul Nees, Tad Pedersen



Left to right: Supervising Deputy Dave Fields, Scott Goff, Richard Smith, Brian Huff, Greg Davis

## East Region



Left to right: Charlie Chase, Michael Colvin, Michelle Stevens, Supervising Deputy Bob Wright, Kristina Deschaine, Keith Brown

## Southwest Region





# License and Permit Services

Certificates, permits and licenses

License and Permit Services administers five statewide programs: Explosives, Cardlock (Non-retail fuel dispensing), Liquefied Petroleum Gas (LPG), Fireworks, and Fire Standard Compliant Cigarettes. Training, technical assistance and informational materials are provided to each industry enabling them to meet state requirements. Staff conduct on-site inspections, issue notice and orders of correction, assess penalties, and adopt administrative rules. For more information visit: [http://egov.oregon.gov/OSP/SFM/Licensing\\_Unit.shtml](http://egov.oregon.gov/OSP/SFM/Licensing_Unit.shtml).

## 2007 Accomplishments

### Explosives

Staff worked with the Bureau of Alcohol, Tobacco, Firearms, and Explosives (BATFE) to streamline state and federal requirements that were placing an undue burden on members of Oregon's explosives industry. Staff and BATFE worked together to align state and federal explosives magazine inspection dates and state certificates for explosives possessor with federal clearances. This created a smooth transition from state to federal regulation. The OSFM will continue to operate the explosives magazine movement and location reporting hotline to maintain the safety of Oregon's fire responders.

### Cardlock

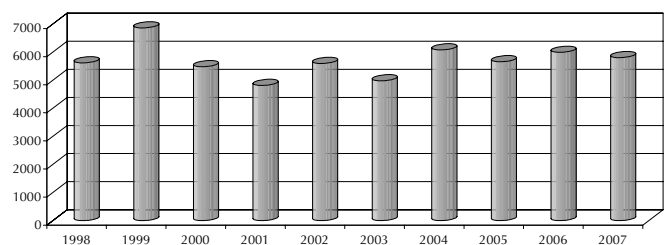
Through education efforts aimed at the cardlock industry, staff increased industry compliance rates for records and facility inspections. Staff inspected the records of 100% of Oregon's 111 cardlock operators and conducted onsite inspections of all 379 of their dispensing facilities. Staff improved and streamlined internal processes by creating electronic tracking methods for historical inspection and annual compliance data.

Cardlock license procedures were also streamlined, resulting in faster customer response times. Inspection travel routes and timing were re-aligned, saving significant travel and labor costs.

### Liquefied Petroleum Gas (LPG)

Staff conducted 533 LPG tank inspections in 18 counties. This represents 14% of all installations in Oregon. They streamlined bulk plant and underground container inspection forms to reduce confusion and improve industry compliance. Staff also developed and distributed updated information to the public and industry on rules regarding aesthetic fencing near LPG tanks and added information resources to the OSFM's LPG web page.

LPG Tanks Installed (1998-2007)



## Fireworks

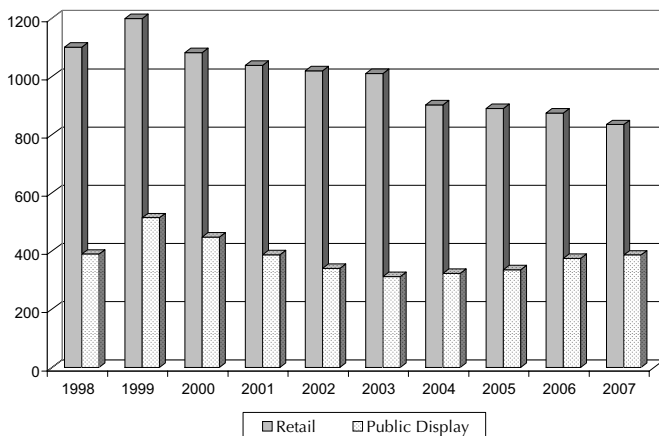
Staff partnered with Tualatin Valley Fire & Rescue and Portland Police Bureau to destroy several thousand pounds of confiscated illegal fireworks. Staff also updated *The Pocket Guide to Fireworks Enforcement* and distributed it to fire and police departments throughout the state to help them enforce fireworks rules and regulations.



From left: Steve Sigurdson from Oregon State Police, Steve Forster from Tualatin Valley Fire & Rescue and Derik Gulsvig from the Portland Police Bureau discuss the different types of fireworks before adding them to the burn bin (background).

Permits for both retail fireworks sales and public fireworks displays peaked in 1999. In 1999, 1,213 permits were issued for retail sales and 515 permits were issued for public fireworks displays in Oregon. Since 1999, permits for retail sales have declined by 31 percent. After a low in 2003, permits for public firework displays has increased 24 percent.

Fireworks Permits Issued (1998-2007)



## Fire Standard Compliant Cigarettes

This program was established in 2007, to administer Oregon's new fire-safer cigarette law established by House Bill 2163. Staff worked with representatives from the Department of Justice and Department of Revenue to develop and distribute retail notifications and certification requirements in preparation for the law's effective date, January 1, 2008.

From 1979 through 2006, 147 Oregonians died from cigarette-caused fires. When compared to all top causes of deaths by fire, smoking-related fires generally result in the highest fatality rate for residential fires. Oregon's fire-safer cigarette law will significantly reduce the likelihood of fire deaths, injuries and property loss from cigarette-caused fires.

Oregon became the 9th state to pass fire-safer cigarette legislation.

## License and Permit Services staff



Back row, left to right: Jay Hardwick, Sharon Kraw, Manager Anita Phillips, Art Spod; front row: Kathy Beebe, Sally Cravinho, Linda Collins, Joann Noffsinger

# Information and Data Services

Internal computer programming, technical support and fire and incident data

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Information Systems and Data Services provides technical expertise in computer programming, system management and new technology allowing OSFM team members to operate at peak efficiency. The unit also collects data on structure, mobile property, juvenile-set, school, and large as well as hazardous materials incidents. For more information, visit [http://www.oregon.gov/OSP/SFM/Information\\_Data\\_Services\\_Unit\\_Home\\_2007.shtml](http://www.oregon.gov/OSP/SFM/Information_Data_Services_Unit_Home_2007.shtml).

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## 2007 Accomplishments

Information Systems and Data Services (IS) staff continued work towards completing the new web-based Oregon Response Reporting System (ORRS). The ORRS will be replacing the current Oregon Incident Reporting System in 2009.

The unit coordinated computer upgrades for all 16 state Hazardous Materials Teams. The teams received laptop computers designed for harsh environments and to withstand rough handling and extreme weather. Information Systems (IS) staff also updated the hazardous substance database programming language to align with industry standards and improve access to database information.

IS upgraded the OSFM electronic storage capacity and computing speed by replacing four old servers with current models.

Data Services continued to improve on incident data collection. Staff increased the accuracy of data submitted to the National Fire Incident Reporting System to just over 99%.

Information and Data Services measures many of its accomplishments through the efficiency and customer service demonstrated by other OSFM units. Their responsibility lies in keeping the OSFM computer system running at top efficiency with the most advanced technology available.

## Information and Data Services staff



From left to right, back row: Stephen Wright, Bryan Dornon, Charissa Divine; middle row: Vi Pelley, Lisa Bradley; front row: Manager Scott Showers, Lucy Osgood

# Reporting methodology

Analysis of the research is based on reports received from fire departments statewide. These reports are provided in many different formats and are maintained by the Oregon Office of State Fire Marshal (OSFM) and tracked using the Oregon All Incident Reporting System (OAIRS). Fire departments provide a report of each fire incident to which they respond. The report includes a description of the fire incident, including fire cause and other information.


In 2007, 94 percent of the 308 active Oregon fire departments reported. Even though data from 17 non-reporting departments is not included in this report, we consider the data set to be complete and no estimates are used.

Other reports and statistics used are based on the National Fire Protection Association's (NFPA) 901 Standard Classifications for Incident Reporting and Fire Protection Data.

Population estimates are from Portland State University's Center for Population Research and Census.

Trend analyses are based primarily on data from OAIRS as provided by Oregon fire departments in previous years. This data provides insight into Oregon's fire 'picture,' guiding the direction of fire prevention and education efforts to reduce fire deaths, injuries and property losses.

Additional data is available on the OSFM website at <http://www.oregon.gov/OSP/SFM/>.

 Note: This report contains data calculated as a rate based on a specified unit of population. A rate is a method of making comparisons of the number of occurrences between groups of different sizes. For example, using rate as the measure allows us to compare national with state data. (The symbol above will appear beside rate charts to identify them.) Other data in the report use raw numbers, i.e. the actual count.

## Fire reporting terms

**All Fires** - includes structure, mobile property, and other fires.

**All Structure Fires** - includes both residential and non-residential.

**Fireworks-Related Fires** - includes fires involving both legal and illegal fireworks.

**Residential Structures** - includes one-and two-family dwellings, apartments, manufactured homes, and other residences such as motels, hotels, boarding houses and dormitories.

**Non-Residential Structures** - includes manufacturing, business and office, education, health care, storage, and other commercial buildings.

**Mobile Property** - includes passenger vehicles, trucks, boats, aircraft, and farm and construction vehicles.

**Other Fires** - a broad category made up of five different types of reportable fires: fires in cultivated vegetation, natural vegetation, refuse (including dumpster fires), other outside fires with value, and other fires not classified elsewhere.

**Youth Involved Fires** - includes juveniles seven-teen years old and younger.

# Fire in Oregon by the numbers

## Structure Fires

In last five years, Structure Fires per million population continued on a downward trend, decreasing 28.5 percent from a high of 1,455 in 2003 to 1,040 in 2007.

## Mobile Property Fires

Over the last five years, Mobile Property Fires declined 32.3 percent, from 777 per million population in 2003 to 497 per million population in 2007.

## Other Fires

Other Fires decreased 22.9 percent per million population from 2,067 in 2003 to 1,593 in 2007.

## Oregon Fires per Million Population

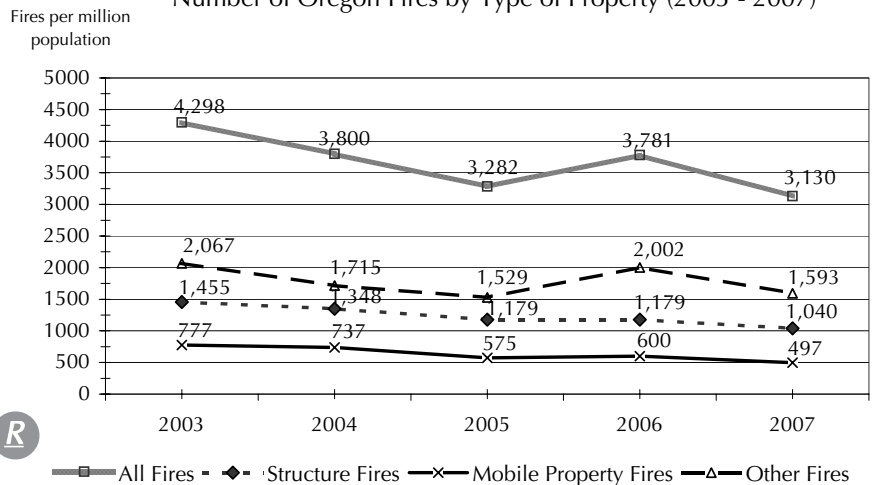
In 2007, the total number of fires per million population in Oregon decreased 17.2 percent from 2006. Most of this reduction resulted from a 20.4 percent decrease in Other Fires. During the same period, Structure Fires decreased 11.8 percent and Mobile Property Fires decreased 17.2 percent.

Oregon's five-year trend in total fires per million population has decreased 27.2 percent since 2003.

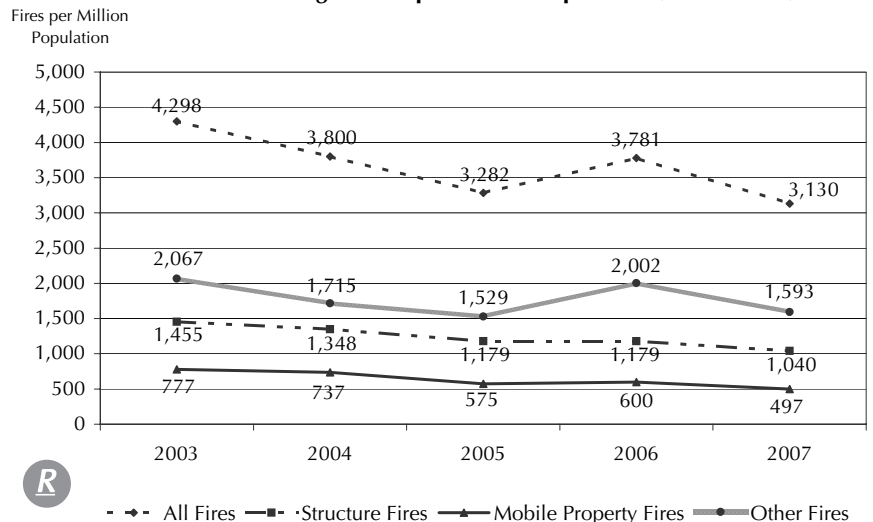
## 2007 Fire Summary Statistics

	Structure Fires	Mobile Property Fires	Other Fires	Total
Number of Fires	3,894	1,863	5,966	11,723
Civilian Fatalities	26	16	1	43
Civilian Injuries	227	33	31	291
Firefighter Fatalities	0	0	0	0
Firefighter Injuries	84	9	17	110
Estimated Dollar Loss (in millions)	\$107.7	\$15.4	\$5.5	\$128.6
Mutual Aid Given	1,383	308	1,188	2,879
Non-Fire Incidents				269,583
Total Reported Incidents				281,306

Number of Oregon Fires by Type of Property (2003 - 2007)



Number of Oregon Fires per Million Population (2003 - 2007)





## Oregon Fires by County

Fires and their associated dollar losses are concentrated in the most populated areas of the state. Five of the most populated areas are located in the Willamette Valley counties of Clackamas, Lane, Marion, Multnomah, and Washington. The sixth is in Deschutes County in central Oregon.

In 2007, one- and two-family dwellings and apartments in these six counties accounted for 59.8 percent of the fires and 65.1 percent of the estimated dollar losses. The average dollar loss for these fires was \$25,049, a minimal increase over the \$24,929 average loss in 2006.

Just looking at fires in homes and apartment dwellings throughout Oregon, in 2007, there were 2,928 fires compared to 3,121 in 2006, a decrease of 6.2 percent. From 2006 to 2007, civilian injuries in these fires decreased 1.5 percent; fatalities decreased 8.0 percent, and the total estimated dollar loss decreased by 5.8 percent.

2007 Oregon Fires by County

County	1- & 2-Family Dwellings and Apartments*				All Structure Fires	
	Number of Fires	Civilian Injuries	Civilian Fatalities	Estimated Dollar Loss	Number of Fires	Estimated Dollar Loss
Baker	18	0	0	81,200	66	90,750
Benton	15	0	0	170,780	100	655,260
Clackamas	236	16	1	6,845,732	769	9,780,890
Clatsop	31	1	0	188,150	99	348,376
Columbia	41	5	0	623,970	145	811,370
Coos	74	4	1	2,216,985	178	3,147,085
Crook	22	1	1	1,097,500	117	1,505,050
Curry	19	0	0	693,500	41	823,500
Deschutes	94	4	1	5,116,465	294	5,790,320
Douglas	121	10	2	968,115	473	1,616,665
Gilliam	3	0	0	40,000	46	2,565,800
Grant	11	0	0	7,000	28	860,500
Harney	7	0	0	108,500	32	848,600
Hood River	24	0	0	354,500	110	1,016,850
Jackson	126	6	2	3,789,721	646	5,123,505
Jefferson	26	0	0	335,350	95	705,800
Josephine	108	7	1	4,260,245	392	4,689,170
Klamath	68	0	1	1,270,800	264	3,185,150
Lake	2	0	0	3,500	13	3,500
Lane	219	16	1	7,508,556	1,008	19,352,830
Lincoln	44	0	0	681,970	166	1,044,330
Linn	107	10	1	1,493,672	447	4,275,747
Malheur	46	2	0	533,950	179	3,595,020
Marion	233	8	1	6,468,575	850	8,253,206
Morrow	9	0	0	409,200	56	4,105,200
Multnomah	689	80	4	16,678,298	2,857	25,267,048
Polk	27	1	1	692,281	127	1,270,946
Sherman	0	0	0	0	16	34,500
Tillamook	44	0	0	666,450	122	1,751,850
Umatilla	57	2	3	1,073,685	390	3,284,812
Union	20	0	0	404,950	105	1,000,630
Wallowa	10	0	0	850,000	25	850,250
Wasco	27	1	0	540,950	121	933,100
Washington	279	19	2	5,088,398	1,053	7,207,723
Wheeler	2	1	0	0	26	800
Yamhill	69	3	0	2,079,932	267	2,829,172
<b>Totals</b>	<b>2,928</b>	<b>197</b>	<b>23</b>	<b>73,342,880</b>	<b>11,723</b>	<b>128,625,305</b>

The estimated dollar loss is provided by the firefighter on the scene and does not reflect actual total loss, insurance settlement or loss of business.

\*1- and 2-family dwellings, apartments, mobile homes, and manufactured housing are included.



# Fire's impact on people

## Oregon Civilian Fire Fatalities (1967-2007)

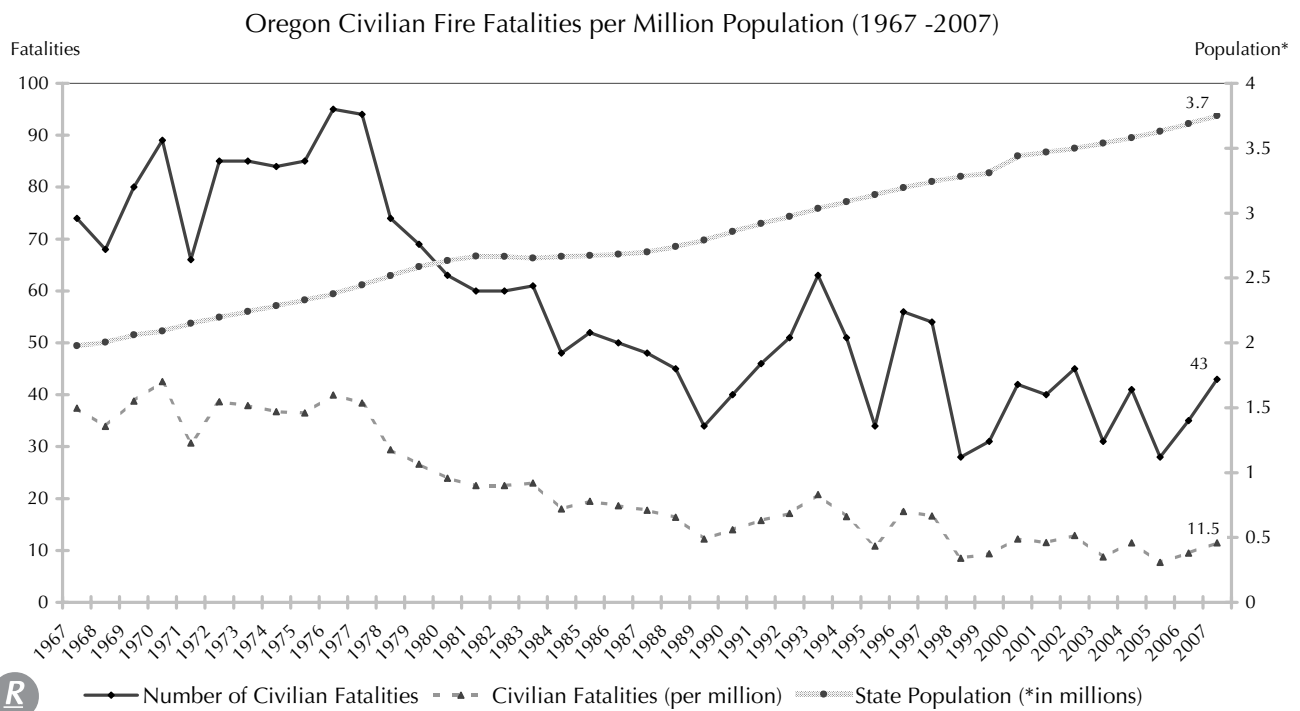
The accompanying graph shows that Oregon's civilian fire fatality rate has decreased 41.9 percent since 1967, while the state's population grew 89.5 percent. Oregon's 2007 civilian fire fatality rate is 11.5 fatalities per million population.

In comparison, the national civilian fire fatality rate declined 50 percent from 1989-2006 (2007 National Fire Protection Association U.S. civilian fire fatality rate data was not available at the time of this report).

Proactive efforts in fire safety and prevention have contributed to this positive trend. Public

education messages have raised public awareness. Other factors, including changes in fire and building codes, contributed to the trend as well. Improved technology in smoke alarms and fire suppression systems has also had a positive impact.

The civilian fatality rate is calculated by dividing the number of Oregon civilian fire fatalities by the estimated Oregon population as reported by Portland State University's Center for Population Research. The July 1, 2007, estimate of Oregon's population is 3,745,455 and was used to calculate the 2007 fire and civilian fatality rates.



## Civilian Fatalities and Rates (1967 - 2007)

Year	Fatalities	Fatalities per Million Population	State Population in Millions*
2007	43	11.5	3.75
2006	35	9.5	3.69
2005	28	7.7	3.63
2004	42	11.7	3.58
2003	30	8.5	3.54
2002	45	12.9	3.50
2001	40	11.5	3.47
2000	42	12.2	3.44
1999	31	9.4	3.31
1998	28	8.5	3.28
1997	54	16.6	3.24
1996	56	17.5	3.20
1995	34	10.8	3.14
1994	51	16.5	3.09
1993	63	20.8	3.03
1992	51	17.1	2.97
1991	46	15.8	2.92
1990	40	14.0	2.86
1989	34	12.2	2.79
1988	45	16.4	2.74
1987	48	17.8	2.70
1986	50	18.6	2.68
1985	52	19.5	2.67
1984	48	18.0	2.67
1983	61	23.0	2.65
1982	60	22.5	2.66
1981	60	22.5	2.67
1980	63	23.9	2.63
1979	69	26.7	2.59
1978	74	29.4	2.52
1977	94	38.4	2.45
1976	95	39.9	2.38
1975	85	36.5	2.33
1974	84	36.8	2.29
1973	85	37.9	2.24
1972	85	38.7	2.20
1971	66	30.7	2.15
1970	89	42.6	2.09
1969	80	38.8	2.06
1968	68	33.9	2.00
1967	74	37.4	1.98

**Note:** In the table at left, the largest number of civilian fire deaths occurred in 1976 and 1977. In both years, several fires involved multiple fatalities. In 1977, one fire resulted in five deaths.

## Oregon vs. National Fatality Rate

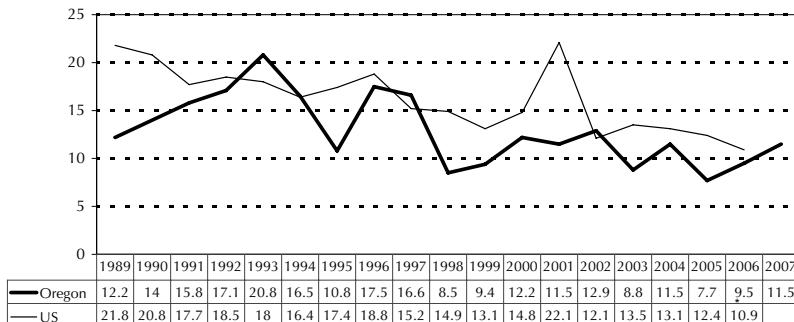
United States fatality rates are based on estimates from the National Fire Protection Association (NFPA) annual fire department survey. These estimates fall within 95 percent confidence intervals and are statistically significant at the .05 level.

The 2001 U.S. rate of 22.1 fatalities per million, includes the 9/11 incident. Without it, the rate is 13.4 per million. At the time of this publication, the 2007 NFPA report on national fire fatality rates was not available. Therefore, 2006 data will be provided for national reporting and comparison purposes.

In 2006, NFPA reported 1,642,500 fires in the U.S. (up 3 percent from 2005) with 3,245 civilian fire fatalities, 16,400 civilian fire injuries, 89 firefighter fatalities, 83,400 firefighter injuries, and an estimated loss of \$11.3 billion in property damage. NFPA also reported 4 out of every 5 fire fatalities resulted from home structure fires. Of the total U.S. fires reported, 51 percent were outside and other fires, 32 percent structure fires, and 17 percent vehicle fires.

\* Estimates from *Portland State University's Center for Population Research*

**Oregon Civilian Fire Fatality Rates per Million Population Compared to National Data (1989 - 2007)\***



\*The 2007 NFPA US fatality rate was not available at the time of this report.



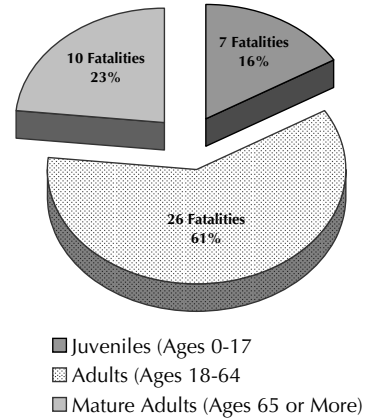
## Civilian Fatalities by Age Group Percentage (2007)

OSFM maintains statistical data in three age groups: juveniles (ages 0-17), adults (ages 18-64), and mature adults (ages 65 or more).

In 2007, there were 43 civilian fire fatalities. Of these, 16 percent (7) were juveniles, 61 percent (26) adults, and 23 percent (10) mature adults.

As of July 1, 2007, Oregon's estimated population was comprised of 23.4 percent juveniles, 64.1 percent adults and 12.5 percent mature adults. As illustrated in the chart at right, fatalities in the juvenile and mature adult populations are disproportionate to the populations they represent.

2007 Civilian Fatalities by Age Group

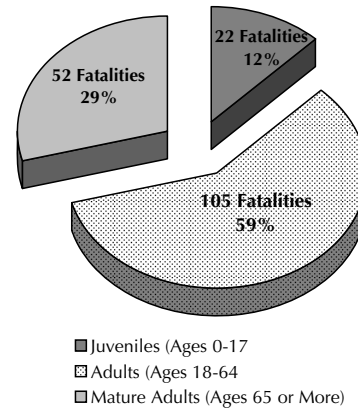


Total Fatalities = 43 Total Population = 3,745,455

## Civilian Fatalities by Age Group Percentage (2003-2007)

From 2003 through 2007, there were 179 total civilian fire fatalities. Of these, 12 percent (22) were juveniles, 59 percent (105) were adults, and 29 percent (52) were mature adults.

Civilian Fatalities by Age Group (2003 - 2007)



Total Number of Fatalities = 179

## Age Group Fatalities Trend (2003-2007)

Fire fatalities for adults increased sharply from 2003 to 2004, then dropped just as sharply in 2005. Since 2005 adult fire fatalities have returned to an upward trend.

Fatalities for mature adults peaked in 2005 and declined for 2006 and 2007, those for juveniles declined in 2005 and increased for 2006 and 2007.

Civilian Fatalities by Age Group (2003-2007)



## Fatalities per Million Population by Age Group (2003-2007)

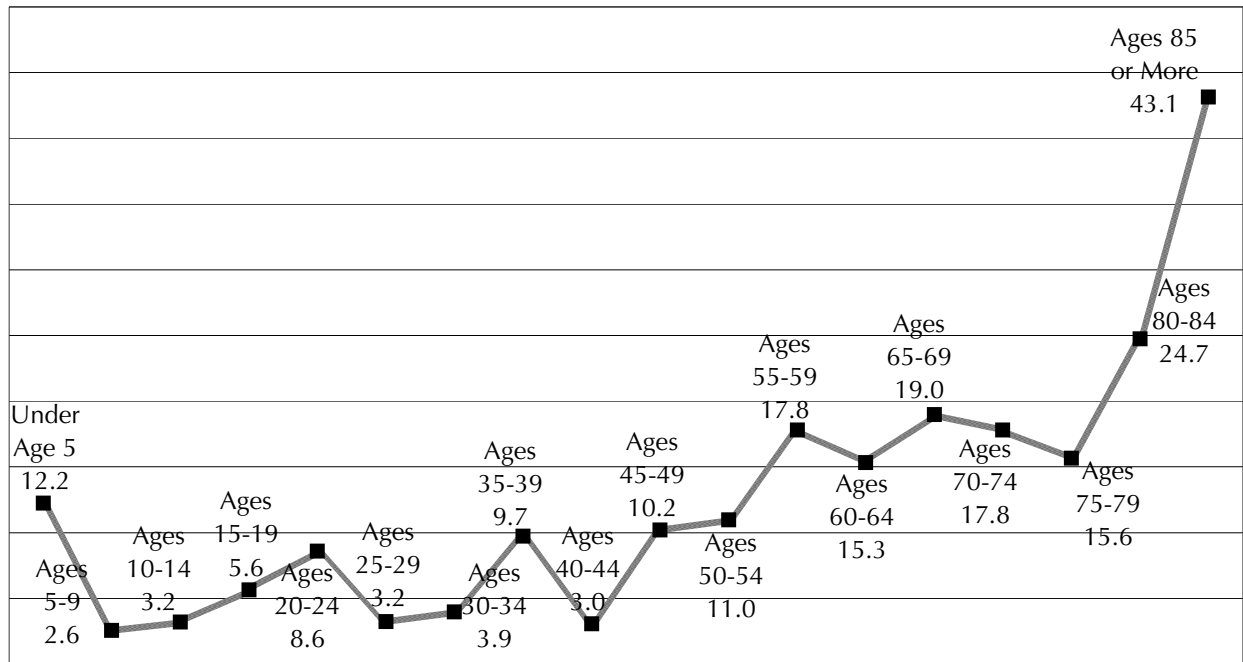
A different perspective is shown in the graph below, *Civilian Fire Fatality Rate per Million Population by Age Group*. Oregon's five-year fatality rate average for juveniles is 5.2 per million. Among juvenile age group subsets, the highest rate is for those under age five at 12.2 per million population.

Adults have a five-year fatality rate average of 9 per million. During the past 5 years, the adult age group fatality rate has risen from approximately 5.6 to 15.3 per million population.

According to data from Portland State University, mature adults comprise just 12.6 percent of Oregon's population, but have a 2003 to 2007 fatality rate of 22.6 fatalities per million.

The fatality rate for mature adults aged 65 to 69 is 19 per million. It jumps dramatically to 43.1 per million for those in the 85 and older group. The fatality rate for mature adults is 2.5 times the adult rate, and 4.3 times the juvenile rate.

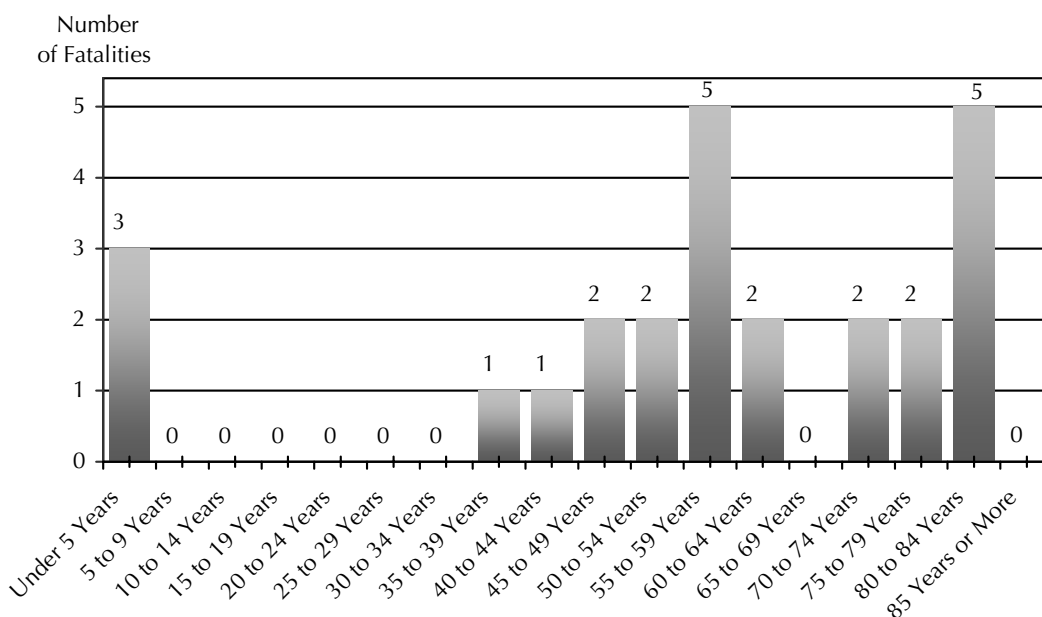
**Oregon Fatality Rate per Million Population by Age Groups (2003 - 2007)**



### 2007 Civilian Fatalities and Cause

Type of Fire	Total Fatalities	Total Fires	Cause of Ignition
<b>Residential Structures</b>			
1- and 2-Family Dwellings	9	8	Undetermined after investigation
	1	1	Incendiary (suicide)
	2	2	Abandoned, discarded material (cigarette, cigar)
	1	1	Falling asleep (pipe)
	1	1	Child with lighter (fireworks)
	2	1	Combustible too close to heat source (woodstove)
	2	1	Short circuit (extension cord)
	2	2	Electrical failure, overheated (candle warmer, can opener)
	1	1	Improper operating equipment (electric space heater)
Apartment Dwellings	2	2	Undetermined after investigation
Boarding House	2	1	Electrical failure, overheated (extension cord)
<b>Residential Structure Total</b>	<b>25</b>	<b>21</b>	
<b>Other Outside Residential</b>			
Travel Trailer, Not Lived-in	1	1	Combustible too close (candle)
Travel Trailer	3	1	Undetermined after investigation
Riding Lawn Mower	1	1	Other part failure, equipment fueled by liquid
RV	1	1	Combustible too close (torch near RV)
<b>Other Outside Residential Total</b>	<b>6</b>	<b>4</b>	
<b>Mobile Property</b>			
Vehicle, Pickup	11	7	Motor Vehicle Accident (MVA)
Semi-Trailer	1	1	MVA
<b>Mobile Property Total</b>	<b>12</b>	<b>8</b>	
<b>Total Fatalities and Fires</b>	<b>43</b>	<b>33</b>	

### 2007 Civilian Fatalities for Residential Structures by Age Group



Total Civilian Fatalities for Residential Structures = 25

## Residential Fire Fatalities and Smoke Alarms in Oregon

In 2007, 84 percent of residential structure fatalities occurred in 21 fires in one- and two-family dwellings. Of these fatalities, 32 percent occurred in homes with no alarm or alarm failure, 56 percent occurred in homes with unknown alarm performance or presence, and 12 percent of the fatalities occurred in homes with a working smoke alarm.

**2007 Fatalities with Smoke Alarm Presence and Performance**

	1- and 2-Family Dwelling Fatalities	Apartment Dwelling Fatalities	Other Residential Dwelling Fatalities*	Total
Fatalities with No Alarm or Alarm Failure	6	0	2	8
Working	3	0	0	3
Fatalities with Alarm Performance Unknown	5	1	0	6
Fatalities with Alarm Presence Unknown	6	1	1	8
Total	21	2	2	25

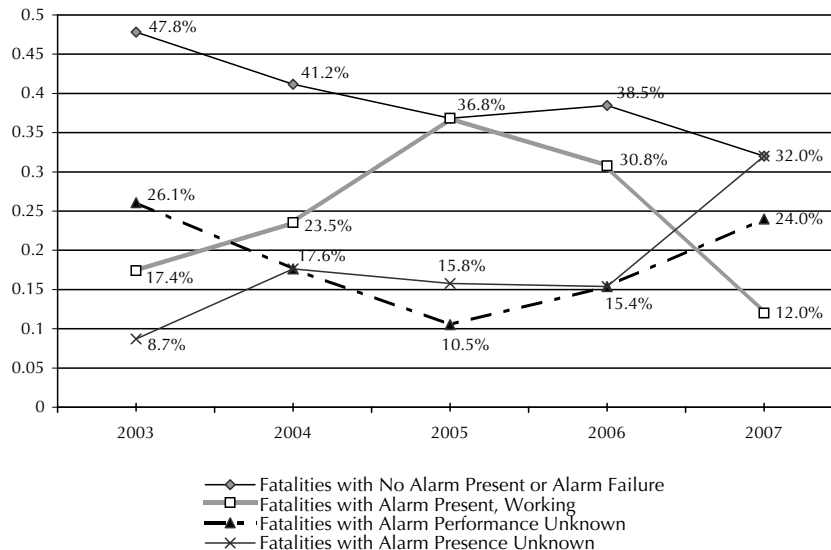
\*Other residential dwelling includes rooming, boarding, and lodging, dormitories, and other residential occupancies

In 2007, fatalities where the presence of an alarm was unknown increased 267.8 percent from 2003. However, fatalities with no alarm present or alarm failure dropped from 47.8 percent in 2003 to 32 percent in 2007, a reduction of 33.1 percent. Fatalities where an alarm was present and working were 17.4 percent in 2003, increasing to 36.8 in 2005, dropping to 12 percent in 2007. There were 25 total residential structure fire fatalities in 2007 and 26 in 2006, a 3.8 percent decrease.

When a smoke alarm was present and working, there were 8 fire fatalities in 2006 and 3 in 2007, a 62.5 percent decrease.

In contrast, between 2006 and 2007, where the presence of a smoke alarm was unknown or undetermined, fatalities doubled from 4 to 8. Fatalities in incidents where a smoke alarm was present but its performance could not be determined increased by 50 percent.

**Fire Fatalities in Residential Structures by Smoke Alarm Presence and Performance (2003 - 2007)**





## Civilian and Firefighter Injuries

There were 401 reported injuries to civilians and firefighters in 2007, five more than 2006. No firefighter fatalities were associated with reportable fires in 2007.

### Civilian Injuries (2003-2007)

In 2007 there were 291 civilian injuries resulting from reportable fires in Oregon, an increase of just 1.4 percent from 2006. The majority were in structure fires (78 percent). Another 11.3 percent were in mobile property fires, and 10.7 percent involved other types of fires.

Civilian Fire Injuries (2003 - 2007)

Year	Structure Fire Injuries	Mobile Property Fire Injuries	Other Fire Injuries	Total Injuries
2007	227	33	31	291
2006	237	16	34	287
2005	251	21	29	301
2004	176	17	17	210
2003	172	33	19	224

### Firefighter Injuries (2003-2007)

There were 110 firefighter injuries reported in 2007, an increase of less than 1 percent from 2006. Injuries were sustained in 84 structure fires (76.3 percent), 9 in mobile property fires (8.2 percent), and 17 in other types of fires (15.5 percent).

Firefighter Fire Injuries (2003 - 2007)

Year	Structure Fire Injuries	Mobile Property Fire Injuries	Other Fire Injuries	Total Fire Injuries
2007	84	9	17	110
2006	91	5	13	109
2005	81	7	17	105
2004	83	1	14	98
2003	69	4	8	81

# Fire's impact on property

## Financial Losses from Fires

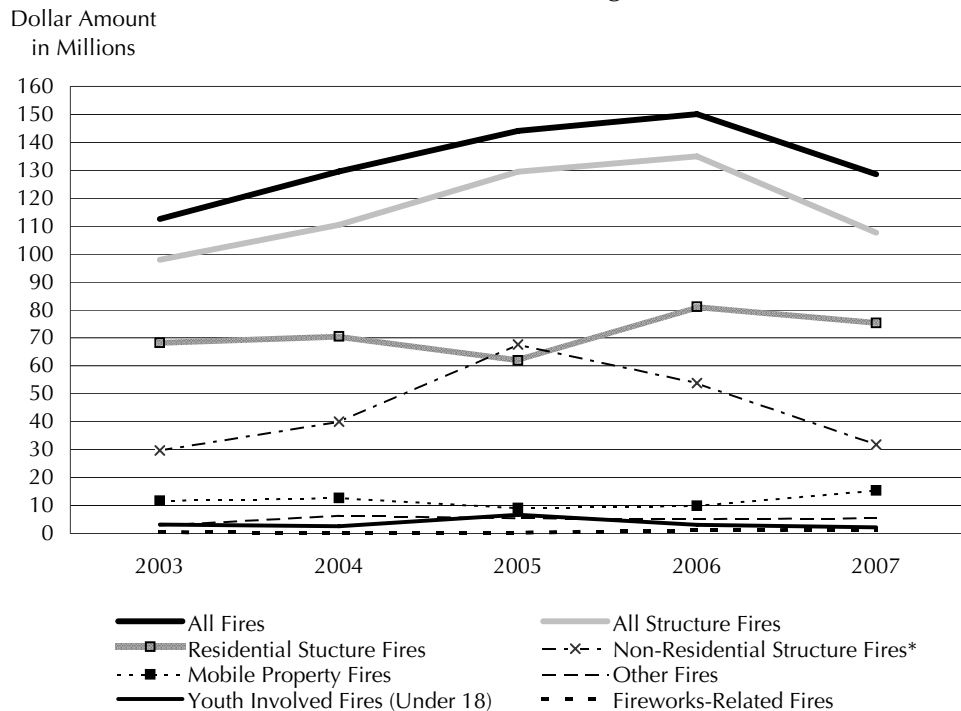
Oregonians experience financial losses from fires, as well as injuries and loss of life. The estimated direct dollar loss decreased 14.3 percent from \$150.1 million in 2006 to \$128.6 million in 2007. (Estimated losses are provided by the reporting department and are not adjusted for inflation and do not reflect actual loss, insurance settlements or business losses.)

In 2007 and 2006, the largest financial losses were due to structure fires. These fires accounted for 83.7 percent of all fire dollar losses in 2007 and 89.9 percent in 2006. In 2007, dollar losses for residential structures made up 70.0 percent of all structure fire losses compared with 60.1 percent in 2006.

Estimated Dollar Loss in Millions for Oregon Fires

Type of Dollar Loss	2003	2004	2005	2006	2007
All Fires	112.6	129.6	144.1	150.1	128.6
All Structures	98.0	110.5	129.5	135.0	107.7
Residential Structures	68.2	70.5	61.9	81.2	75.3
Non-Residential Structures	29.7	40.0	67.6	53.8	31.8
Mobile Property	11.7	12.7	9.1	9.9	15.4
Other Fires	2.9	6.4	5.5	5.2	5.5
Youth Involved Fires	3.2	2.6	6.7	3.1	2.2
Fireworks-Related Fires	0.5	0.2	0.3	1.1	1.4

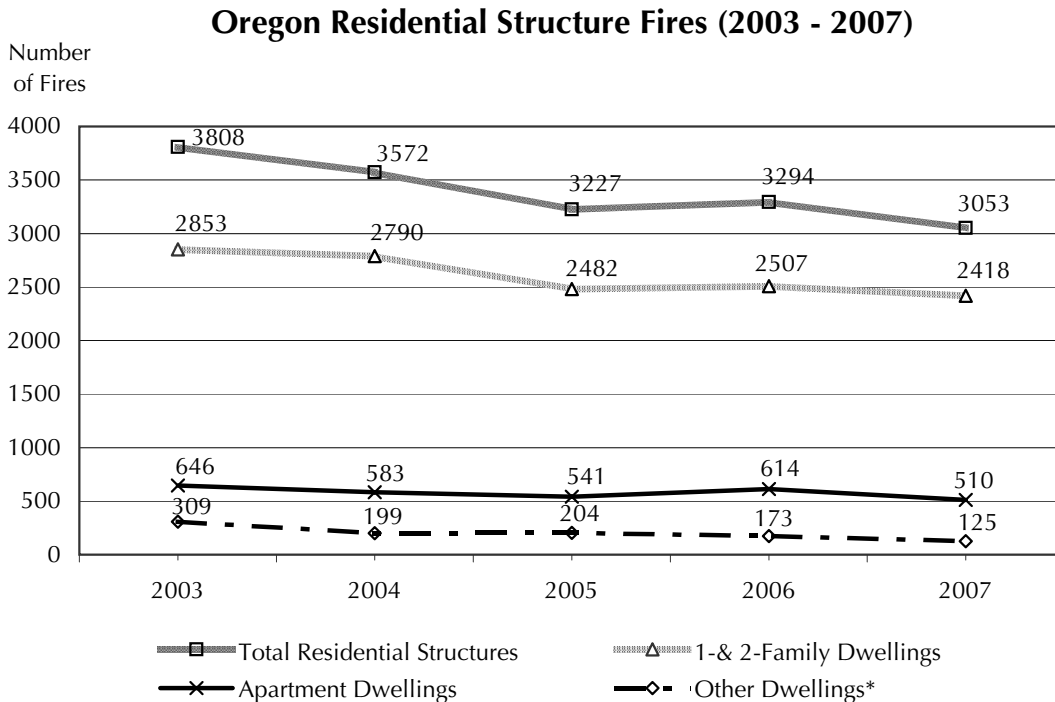
Estimated Dollar Loss for Oregon Fires (2003 - 2007)



## Residential Structure Fires

The majority of structure fires in Oregon occur in homes. Residential structure fires accounted for 78.4 percent of the 3,894 reported structure fires in 2007. The number of residential structure fires in 2007 has trended downward decreasing 7.3 percent from 2006 and 19.8 percent from 2003.

The graph shows the number of fires per year by type of residential structure from 2003 to 2007. The 3,053 residential structure fires in 2007 are comprised of 2,418 one- and two-family residential dwellings (79.2 percent), 510 apartment dwellings (16.7 percent), and 125 other residential dwellings (4.1 percent).

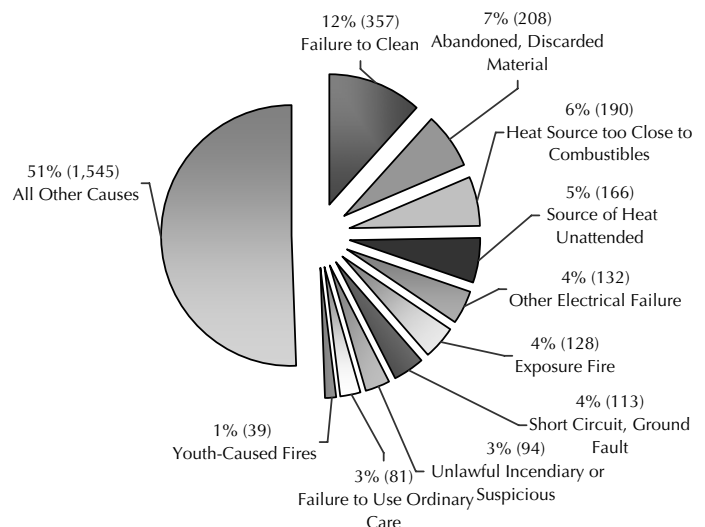


\*Other dwellings includes rooming, boarding, and lodging, dormitories, and other residential occupancies

The three leading causes of residential structure fires in 2007 were failure to clean, abandoned or discarded material and heat source too close to a combustible. These three causes represent 24.7 percent of the causes of all residential structure fires.

Fire causes falling into the category, All Other Causes, represent 50.6 percent of residential structure fire causes. The All Other Causes category includes, but is not limited to: ignition factor undetermined or not classified, misuse of material, operational deficiency, automatic control failure, and natural conditions.

### 2007 Leading Causes of Residential Structure Fires



Total Residential Structure Fires = 3,053

### Leading Causes of Residential Structure Fires (2003 - 2007)

The five-year period from 2003 to 2007 saw the same three leading fire causes, varying from 23.7 to 26.7 percent of all fire causes.

Causes of Fires	2003	2004	2005	2006	2007
Failure to Clean	474	418	392	347	357
Abandoned, Discarded Material	211	262	242	237	208
Heat Source too Close	217	250	257	228	190
Other Electrical Failure	145	156	152	166	132
Unattended Heat Source	234	178	190	163	166
Short circuit, Ground Fault	157	151	121	134	113
Youth-Caused Fires	94	106	55	91	39
Unlawful Incendiary or Suspicious	91	99	99	91	94
Failure to Use Ordinary Care	110	115	88	87	81
Combustible too Close	70	61	49	50	58
<b>Additional Data</b>					
Residential Structure Fires	3,808	3,572	3,336	3,294	3,053
*Estimated Dollar Loss (in millions)	\$68	\$71	\$62	\$81	\$75.3
Civilian Injuries	159	165	221	213	206
Civilian Fatalities	21	33	21	25	25
Firefighter Injuries	51	67	61	72	79

### Non-Residential Structure Fires

In 2007, 893 non-residential structural fires accounted for 22.9 percent of all structure fires and caused an estimated loss of \$31.8 million. This is a 40.3 percent decrease in non-residential structural fire loss from 2006.

There was one civilian fatality, 21 civilian injuries, and 14 firefighter injuries caused by non-residential structure fires. The highest number of fires and civilian injuries occurred in business and office structures. The largest total estimated dollar loss for non-residential structure fires occurred in the manufacturing category.

Statewide initiatives to improve the quality of fire code administration and enforcement for commercial structures at the local level are crucial to reducing non-residential fires.

### 2007 Non-Residential Structure Fires

General Type of Property	Number of Fires	Estimated Dollar Loss	Civilian Injuries	Civilian Fatalities	Firefighter Injuries
Public Recreation	132	6,576,012	3	0	2
Education	90	3,914,815	0	0	0
Health Care	44	547,975	2	0	0
Business and Office	175	5,112,647	13	0	6
Utility and Agriculture	45	1,040,750	0	0	0
Manufacturing	157	11,748,125	3	0	3
Storage	140	1,802,231	0	0	3
Other Uses	110	1,047,025	0	1	0
Total	893	\$31,789,580	21	1	14

## Mobile Property Fires (2007)

In 2007, the 1,863 mobile property fires represented 15.9 percent of all fires, the same as 2006. Dollar loss from mobile property fires represented 12 percent of the loss from all fires. This is an 81.8 percent increase from 2006.

There were 16 civilian fatalities resulting from mobile property fires in 2007 compared to four in 2006. In 2007, there were 17 civilian injuries, one more than in 2006.

Vehicle fires comprise the largest number of mobile property fires, 59.6 percent in 2007 and 60.1 percent in 2006. The estimated dollar loss from car fires represented 20.1 percent (\$3.1 million), the total losses for mobile property fires. This is a 13.9 percent decrease from 2006.

**2007 Mobile Property Fires**

Mobile Property	Number of Fires	Estimated Dollar Loss	Civilian Injuries	Civilian Fatalities	Firefighter Injuries
Cars	1,110	3,141,754	12	7	5
Pickup and vans	48	101,720	0	4	1
General use trucks, over 1 ton	42	990,919	0	0	0
Semi-trucks	111	2,704,001	0	1	1
Heavy industrial and agricultural equipment	84	3,413,552	2	1	0
Motorhomes	56	1,681,250	2	0	1
Travel trailers and camping trailers	41	451,200	1	3	0
Boats (motorized, commercial, other)	19	751,250	0	0	1
Aircraft	1	1,000	0	0	0
Other or unidentified type	351	2,199,582	0	0	0
Total	1,863	\$15,436,228	17	16	9

## Other Fires (2007)

In 2007, Other Fires represented 50.1 percent of total fires reported in 2007, a 15.8 percent decline from 2006. Estimated dollar loss from all Other Fires represented 4.3 percent of the total fire loss in 2007 and 3.5 percent in 2006. One civilian fire fatality and 29 injuries resulted from Other Fires in 2007 compared to four fatalities and 34 injuries in 2006.

The Other Fires category is comprised of natural and cultivated vegetation, trees, brush, grass, outside refuse that include dumpsters, other

outside fires with or without dollar value, and explosions.

Natural and cultivated vegetation fires combined represented 62.3 percent of the Other Fires compared to 62 percent in 2006 with an overall 19.3 percent decrease in the number of Other Fires from 2006. Though there were more natural and cultivated fires in 2006 than in 2007, the estimated dollar loss for 2007 increased significantly from \$983,832 in 2006 to \$2,142,265 in 2007, a 117.7 percent increase.

**2007 Other Fires**

Type of Fire	Number of Fires	Estimated Dollar Loss	Civilian Injuries	Civilian Fatalities	Firefighter Injuries
Fire in natural vegetation, trees, brush, grass	3,071	566,140	3	0	18
Refuse fire outside, including dumpsters	1,312	292,254	1	0	2
Fire in cultivated vegetation, lawns, crops, orchards	647	1,576,125	0	0	0
Other outside fires, with or without \$ value	709	876,938	4	1	1
Fire, explosion (not classified above)	227	2,194,320	21	0	10
Total	5,966	\$5,505,777	29	1	31



## Fireworks-Related Fires

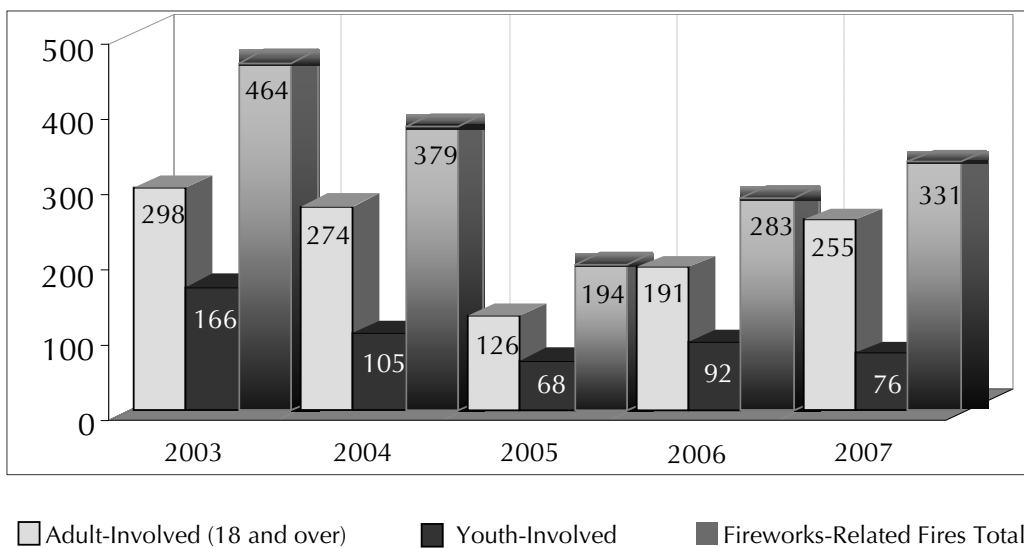
In 2007, fireworks-related fires increased 17.0 percent from 2006. Youth-involved fireworks-related fires decreased 17.4 percent while adult-involved fireworks-related fires increased 33.5 percent.

Fireworks-related fires decreased from 2003 to 2005 but since then have been trending upwards.

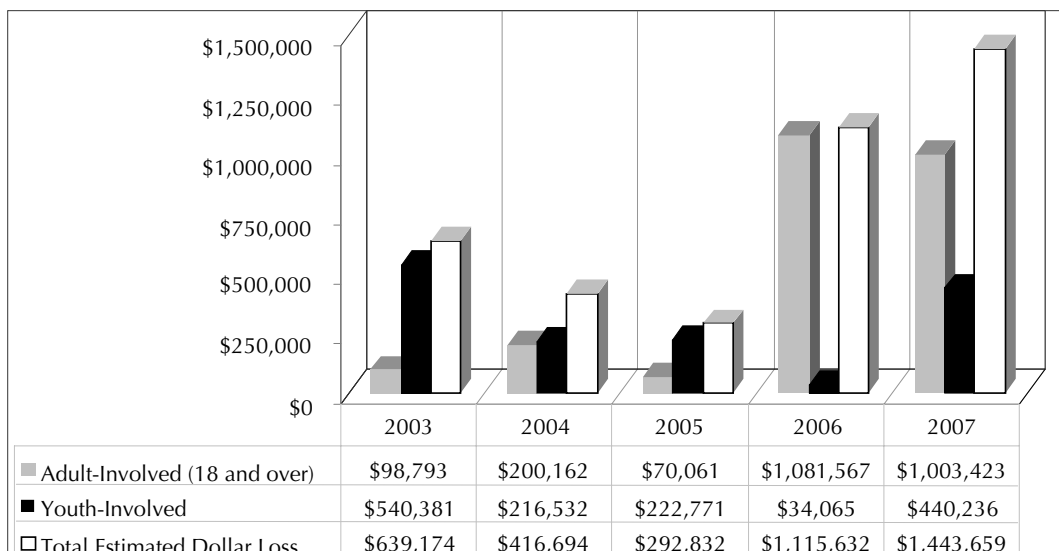
In 2007, 331 fireworks-related fires resulted in an estimated dollar loss of \$1.4 million, a 29.4 percent increase over 2006.

Youths (age 17 and younger) were responsible for 22.9 percent (76) of the fireworks-related fires in 2007 compared to 32.5 percent (92) in 2006.

### Fireworks-Related Fires by Age Involvement (2003 - 2007)



### Fireworks-Related Fires Estimated Dollar Loss (2003 - 2007)



# Juveniles and fire

Since 2003, reporting from OAIRS and Form 10 J (Juvenile with Fire Reporting Form) has shown a significant decrease in the number of youth-set fires and the number of fire incidents.

In 2007, the average number of prior fires set by a youth before becoming involved with the fire department was three. Some youths reported over ten prior fires. If those are excluded, the average number of prior sets is two.

Juveniles & fire	2003	2004	2005	2006	2007
Form 10	490	436	444	458	298
Form 10J	804	599	467	457	399
ODF (included in 10J)	39	28	21	37	31
<b>Total juveniles</b>	<b>1294</b>	<b>1035</b>	<b>911</b>	<b>915</b>	<b>697</b>

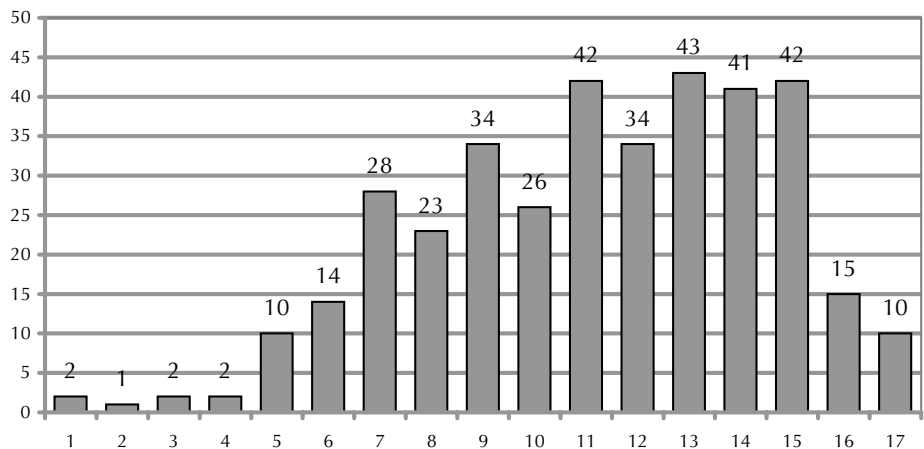
## Gender

Gender factors have remained constant for the last five years, with males accounting for 84 percent to 88 percent.

Boys are significantly more likely than girls to be involved in firesetting incidents reported to the fire department. However, in 2007, the percentage of girls increased to the highest percentage since data has been kept.

Gender factors	2003	2004	2005	2006	2007
Male	697	485	382	366	317
Female	101	81	64	52	62
Percentage					
Male	87%	86%	86%	88%	84%
Female	13%	14%	14%	12%	16%

Age distribution of youths involved with fire 2007



## Age

In 2007, youths seven and over set the majority of fires, with a cluster of high numbers between ages eleven and fifteen.

Age groups	2003	2004	2005	2006	2007
9 years & under	34%	31%	49%	29%	31%
10 years & older	66%	69%	51%	71%	69%

## Ignition Source

From 2003-2007, the data show a consistent preference for lighters over matches. A match was used in 19 percent of the fire incidents and a lighter in 42 percent. The ignition source was obtained from home 48 percent of the time.

Ignition source	2003	2004	2005	2006	2007
Lighters	367	288	282	269	226
Matches	228	142	132	104	101
Other (misc.)	119	126	135	114	82
Fireworks	194	134	76	93	80
Smoking materials	29	21	35	37	21
Candles	15	16	11	9	13
Explosives	13	12	7	19	9
<b>Total incidents</b>	<b>965</b>	<b>739</b>	<b>678</b>	<b>645</b>	<b>532</b>

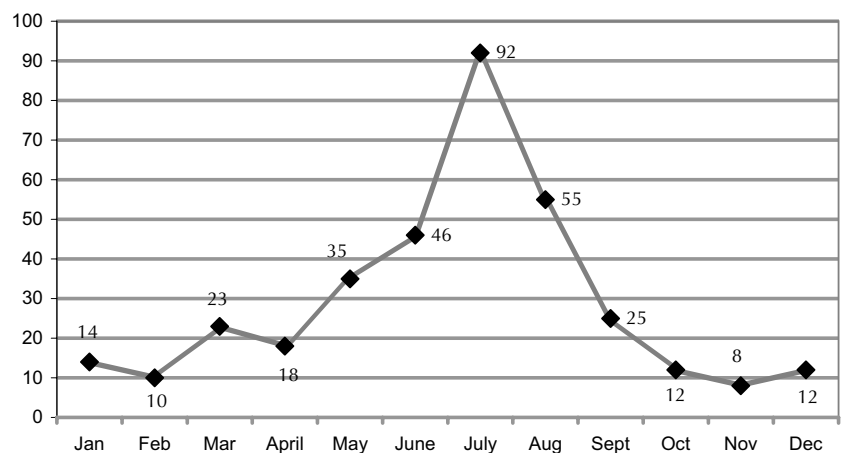
## Incident Location

There were 350 fires with juveniles involved reported in the OAIRS program in 2007. These fires resulted in one civilian death, sixteen civilian injuries and two firefighter injuries and an estimated \$2.56 million in property loss. Of the 350 reported fires involving youths, 66 percent were structure fires. Within the structures, the most common areas of origin were the lavatory, sleeping rooms and kitchen.

Locations of youth-involved fires have been consistent over the years that OSFM has been tracking juveniles and fire. They are locations that youths, who do not have the range of mobility that adults do, have access to: single family homes, apartments, schools they attend, and yards and parks where they play.

Incident location	2007
Single family/duplex	193
School	78
Yard/park/landscaping	64
Apartment	61
Wildland & agricultural land	47
Street/alley/sidewalk	36
Commercial building	23
Other	18
Vacant lot	18
Other Structure	16
Outdoors (misc.)	14
Vehicle	7
Church	6
Dumpster/trash	2
Other residence	1
Mailbox	0
n=584	

Juvenile set fires by month of occurrence



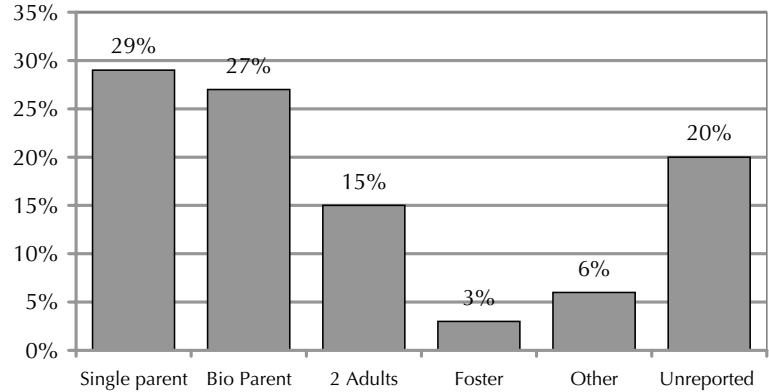
## Month of Occurrence

As in previous years, the months of highest fire department involvement with youths are the summer months, peaking in July. Of the 92 youth-caused fires in July, forty-four involved fireworks, thirteen involved lighters, six by matches, and the remainder by a variety of other causes.

## Family Unit

OSFM has been collecting data on family unit for several years and the findings remain consistent. In 2007, 42 percent of juveniles involved with fire lived in a two-adult family. Twenty-nine percent lived in a single parent family.

Family unit

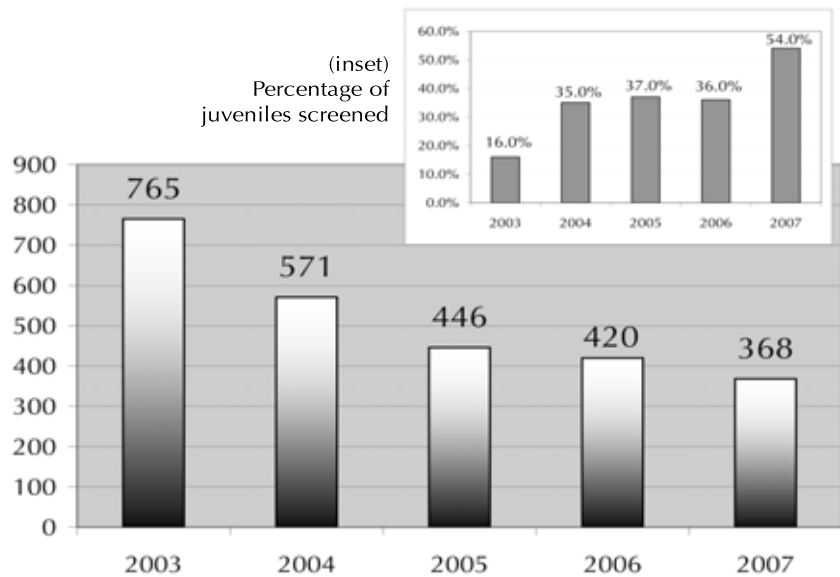


## Screening Scores

A youth coming to the attention of a fire department often receives several different interventions.\* These data detail interventions delivered. Thirty-one percent of the youths involved with fire and seen by Oregon fire departments were referred for further evaluation and community services. Forty-eight percent received fire education. Seventeen youths completed the *Curiosity Curriculum* and seventeen completed the *Adolescent Curriculum*. Seventy-one families made home escape plans and seventeen families received smoke alarms.

Although the number of youths seen by fire departments is dropping, screening using the *Oregon Juvenile with Fire Screening Tool* rose by 18 percent in 2007 (shown in inset graph).

\*Youths reported by the Oregon Department of Forestry (ODF) are not sent to fire departments for intervention. For this analysis, ODF youths have been removed from the annual totals.



### Data from Oregon All-Incident Reporting System:

Total fires: 350  
 Total injuries: 16 civilian injuries, 2 firefighter injuries  
 Deaths: 1 civilian death  
 Total estimated dollar loss: \$2,562,546  
 (does not include suppression cost)

### Data from Oregon Department of Forestry:

Total fires: 28  
 Total acres burned: 184  
 Total suppression cost: \$484,656

## Juvenile Incident Data by County

*Column 1: Engine runs reported on OAIRS*, shows the number of juvenile-set fires requiring an engine response.

*Column 2: Number of juveniles reported on 10J*, shows the number of youths who came to the attention of fire departments for activities involving fire that may or may not have required an engine response. (Non-engine response incidents typically involve youths brought to the attention of the fire department by parents, a fire investigator or other fire department, law enforcement, the juvenile department or a school.)

*Column 3: Juveniles receiving fire department intervention*, shows the number of juveniles who came to the attention of fire departments and received one or more of the following intervention services: parent/child interview, screening using the *Oregon Juvenile with Fire Screening Tool*, fire safety education, or a referral to mental health, Oregon Youth Authority, the juvenile department, the Department of Human Services or law enforcement. These juveniles or their families may also have received a smoke alarm, a *Parent Responsibility Booklet*, and completed a home escape plan, or the curiosity or adolescent curriculum.

In Deschutes, Marion and Washington counties more juveniles were reported on 10J than the number of engines runs reported on OAIRS. A high number of the youths received intervention services. These three counties have juvenile with fire intervention programs that include strong involvement by juvenile department partners. The greater numbers in the 10J column indicate proactive interventions are taking place, often before juvenile fire behavior escalates to the point of requiring an engine response. A committed local juvenile department partner raises the chances of timely interventions. The high number of interventions in Clackamas County also reflects a program with strong juvenile department support.

Counties where the number of engine runs (assuming one juvenile per incident) and most of the juveniles reported on 10J were close in number, and where most of the 10J-reported juveniles received intervention services should be noted as well: Crook, Klamath, Umatilla, Wasco.

County	Engine runs reported on OAIRS	Number of juveniles reported on 10J	Juveniles receiving fire department intervention
Baker	1	0	0
Benton	2	2	1
Clackamas	23	19	17
Clatsop	1	1	0
Columbia	8	3	3
Coos	1	4	2
Crook	5	4	4
Curry	1	2	0
Deschutes	7	34	30
Douglas	9	4	0
Gilliam	0	0	0
Grant	0	0	0
Harney	0	0	0
Hood River	3	0	0
Jackson	17	16	9
Jefferson	4	0	0
Josephine	3	2	1
Klamath	7	9	6
Lake	0	0	0
Lane	35	15	7
Lincoln	6	0	0
Linn	19	30	17
Malheur	5	0	0
Marion	17	43	42
Morrow	0	0	0
Multnomah	121	71	36
Polk	2	2	1
Sherman	0	0	0
Tillamook	2	2	2
Umatilla	7	18	16
Union	4	9	5
Wallowa	0	0	0
Wasco	5	4	4
Washington	31	102	90
Wheeler	0	0	0
Yamhill	4	3	2

**Note:** The electronic version of Form 10J will be updated in 2009. Among the changes will be a data point that will enable us to determine if juveniles whose fire required an engine response received appropriate (or any) intervention services.

## Arson in Oregon - 2006

Arson data comes from the Law Enforcement Data System. The most recent data is for 2006.

- 1,505 arson offenses
- 509 arrests
- 267 juvenile arrests - 52 percent
- 242 adult arrests - 48 percent



# School fires

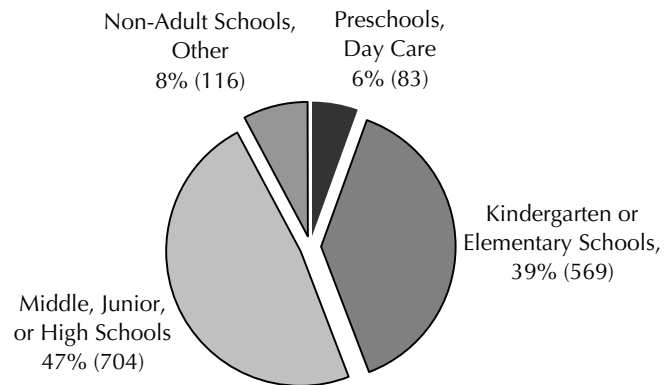
OSFM published comprehensive data about fires in schools for the first time in 1990. Updated findings were published in 2000, 2004 and now 2007. Staff continue to track school fire data and work with state and local partners to develop effective education and information campaigns. In 2004 and again in 2007, the United States Fire Administration (USFA) presented national statistics about fires in schools. Oregon and national data show similar patterns.

## Oregon School Fire Data

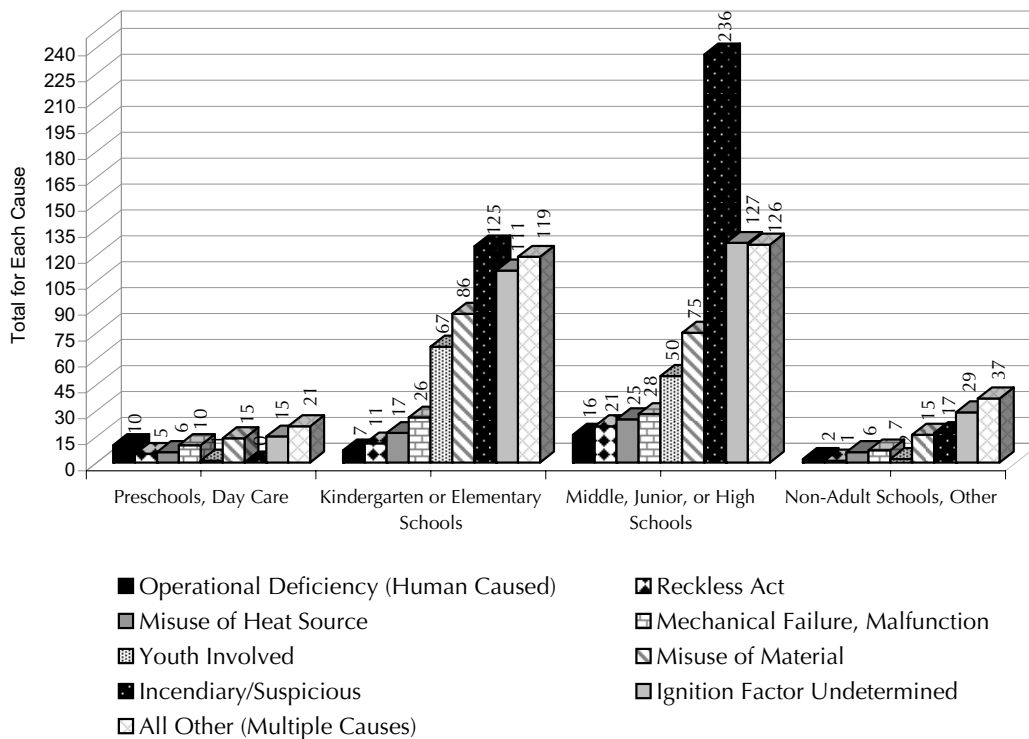
There were a total of 1,472 fires at non-adult schools reported from 2003 – 2007. The majority of fires, 47.6 percent (704) occurred in middle, junior or high schools. Kindergarten and elementary schools experienced 38.4 percent (569) of all school fires.

Of all school fires, from 2003 through 2007, 33.5 percent were incendiary or suspicious. Twenty-five percent of middle and high school fires during this period were incendiary or suspicious.

Oregon School Fires by School Type (2003 - 2007)



Leading Causes of School Structure Fires by Type (2003 - 2007)



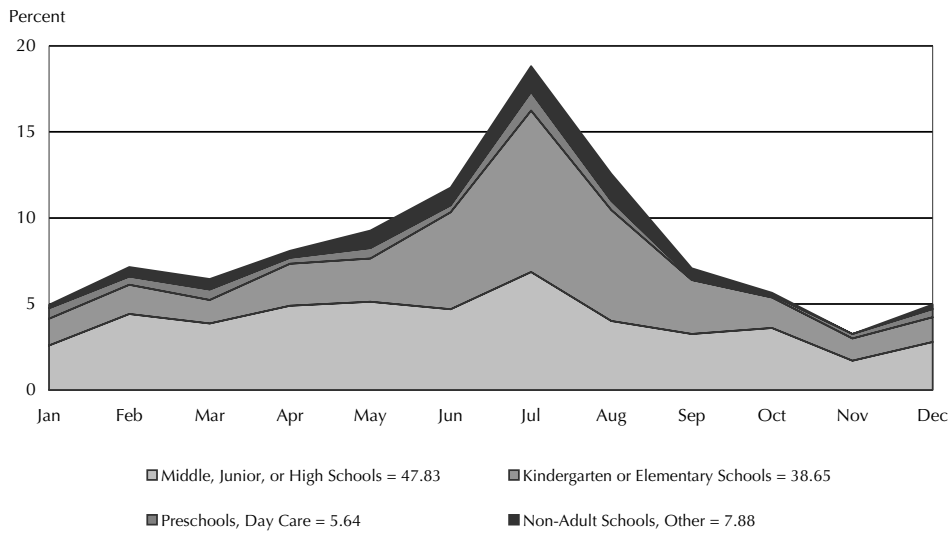
## School Fires by Time of Day

School fires increase toward the end of the academic year and peak in July. Kindergarten and elementary schools had above average fire incidence during June through August. Over half of all fires in elementary schools occurred in these months.

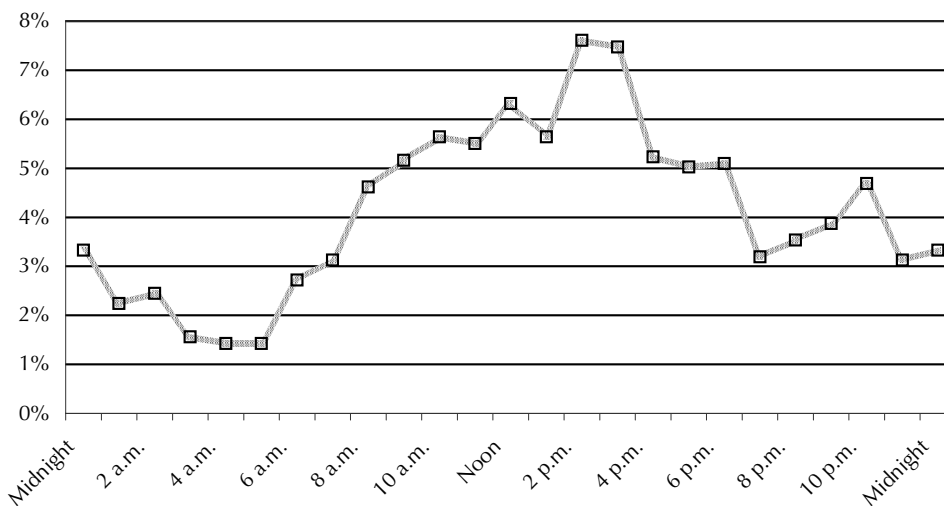
November shows the lowest number of reported fires with a slight rise in December and continuing on a gradual rising trend until the July peak.

Fifty-three percent of fires occurred between 8 a.m. and 5 p.m., the hours students are most likely to be in school. Thirty-nine percent occurred during the six-hour peak time interval, 10 a.m. and 4 p.m.

**Oregon School Fires by Month and School Type (2003 - 2007)**



**School Fires by Time of Day (2003 - 2007)**



# Hazardous materials by the numbers

## Casualties and Chemicals Involved

The table below shows the chemicals involved in incidents where a casualty occurred. Other information in the table includes number of times the chemical was reported in the Hazardous Substance Information Survey (HSIS), number of times the chemical was involved in an incident, and the number of incidents involving that chemical in which a casualty occurred. Not all casualties are directly caused by the hazardous chemicals. In some cases, the casualty was the cause of the incident. Some incidents involved more than one chemical. Where this is the case, the first occurrence of the data is identified with an asterisk.

In 2007, there was one death caused by a hazmat incident. It is identified with two asterisks in the table below.

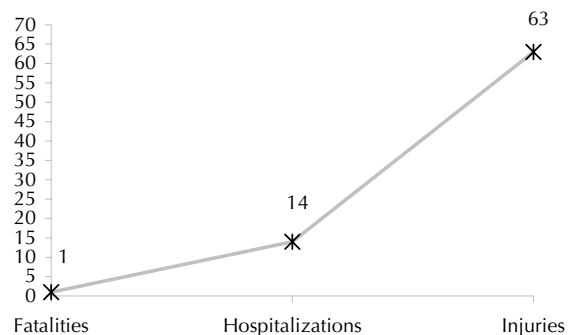
Chemicals involved where casualty occurred

Chemical name	Reported in HSIS	Number of incidents	Incidents w/casualty	Incident ID	Who	Injury due to exposure	Injury due to other	Hospitalized
Aluminum	10	1	1	070026	Civilian	10	0	0
					Fire Service	10	0	0
Ammonia	40	4	1	070041	Other responders	3	0	0
Carbon monoxide	34	2	2	070043	Civilian	6	0	0
				070011	Civilian**	1	0	0
Diallyldisulfide	0	1	1	070059	Civilian	5	0	0
Diesel	2093	16	1	070105	Civilian	0	2	0
Diesel fuel	2749	6	1	070169*	Civilian	0	1	0
Engine oil	163	1	1	070169	Civilian	0	1	0
Gasoline	3170	11	1	070048	Fire Service	0	1	0
Gear lube	196	1	1	070169	Civilian	0	1	0
Liquid nitrogen/phosphorus	2	1	1	070043	Civilian	6	0	0
Mercury	2	1	1	070026*	Fire Service	10	0	0
					Civilian	10	0	0
Muriatic acid	152	2	1	070022	Civilian	11	0	0
Natural gas	39	24	1	070157	Civilian	0	1	0
Pepper spray	0	2	2	070006	Civilian	5	0	0
				070010	Civilian	2	0	0
Propane	5637	6	1	070111	Civilian	1	0	0
Sodium	0	1	1	070026	Fire Service	10	0	0
					Civilian	10	0	0
Unknown chemical	0	14	2	070069	Civilian	5	0	0
				070025	Civilian	0	0	3

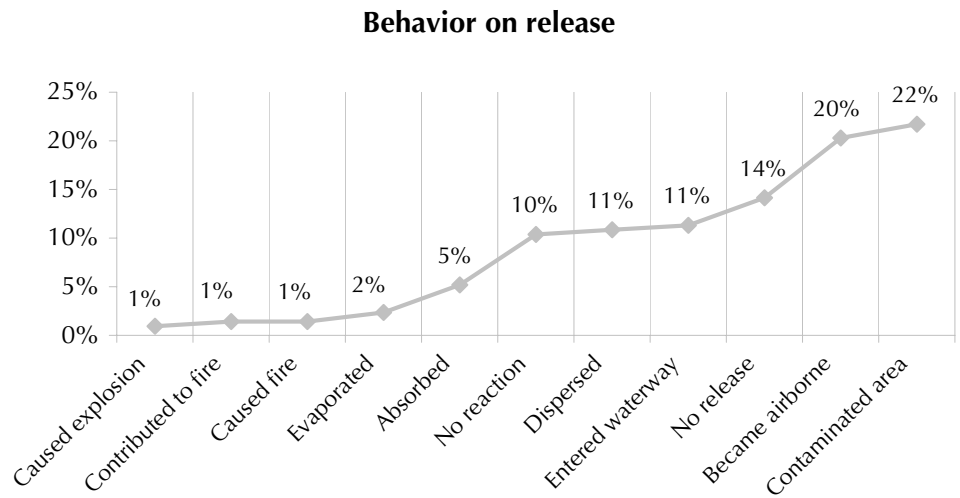
\*\*Death due to exposure.

The graph at right shows the number of people who died, were hospitalized, and/or were injured in the hazardous material incidents reported in 2007.

Casualties in 2007



This graph represents the behavior of the chemical involved in incidents. More than one behavior may have been reported for any one incident. The most frequent behavior on release was that the substance contaminated the area (46 instances). The second highest behavior reported was that the chemical became airborne (43 instances). In 24 instances, the substance entered a waterway.



### Cause of incidents 2003-2007

During 2004, the incident database was redesigned; therefore, some cause categories have been added since 2004. These were not previously tracked. Excavation was the highest cause during 2007, surpassing unknown cause. The next highest causes for 2007 were motor vehicle accident and improper handling.

	2003	2004	2005	2006	2007
Abandoned	26	17	11	10	7
Clandestine drug lab	31	21	15	3	0
Container rupture		5	12	5	7
Derailment	2	0	2	1	1
Equipment malfunction		14	12	10	7
Excavation	8	12	2	9	48
Fire/explosion	8	6	5	3	3
Improper handling		2	6	12	18
Improper storage	27	2	5	3	3
Intentional release		4	5	3	6
Motor vehicle accident	20	14	15	12	21
Unknown	164	71	48	17	28

### Property loss 2003-2007

Losses due to hazardous material incidents include vehicles and their cargo, fixed property, and the value of the hazardous substance spilled.	2003	\$1,655,628
	2004	\$1,582,679
	2005	\$4,254,603
	2006	\$1,237,450
	2007	\$3,785,842

Responding to a hazardous materials incident requires the coordination of the Hazardous Materials Response Teams and other state agencies, local fire departments, police, sheriff, and federal agencies. Personnel from these agencies train and plan together to assure readiness for hazmat incidents.

### Agencies responding 2003 - 2007

	2003	2004	2005	2006	2007
Local fire dept	469	105	137	99	99
<b>Hazmat team</b>	<b>137</b>	<b>120</b>	<b>94</b>	<b>63</b>	<b>68</b>
Local police	242	47	52	19	17
Local other	52	23	18	5	11
Private other	46	7	33	31	34
State agency	35	13	46	28	38
Local sheriff		4	15	7	6
Federal agency	9	3	9	1	3
<b>Total responses</b>	<b>990</b>	<b>322</b>	<b>404</b>	<b>253</b>	<b>276</b>

In 2007, the substance involved in the majority of incidents was natural gas, followed by diesel, unknown chemical, gasoline and liquefied petroleum gas.

### Top five chemicals involved in hazmat incidents

Chemical	Incident count	Times reported in HSIS
Natural gas	24	39
Diesel	16	2094
Unknown chemical	14	0
Gasoline	11	3175
Liquefied Petroleum Gas	7	65

More than one action may have been taken at an incident. In 2007, the three most frequent actions taken at the scene of hazardous materials incidents were: securing the area (100), identifying the hazardous material involved (95), and evaluating the hazardous materials threat.

Action taken at scene	Count
Extinguishment	6
Transport patient	7
Decontaminate	9
Evacuation	18
Clean-up	22
On site EMS	26
Crowd control	28
Public info release	31
Remove hazard	41
Traffic control	51
Hot zone determined	56
Containment	57
Evaluate	94
Identify hazmat	95
Secure area	100



# Glossary

**Abandoned, Discarded Material:** Usually applies to tossed cigarette but includes other smoking materials, burning matter and hot ashes.

**Civilian:** Anyone other than a firefighter. This includes public service personnel such as police officers, civil defense staff, non-fire medical personnel and utility company employees.

**Casualty:** Reported injury or death, whether civilian or firefighter, as a direct result of a fire.

**Combustible Too Close:** Combustible material placed too close to a source of heat, such as a pillow placed against a baseboard heater or paper stored near a woodstove or furnace.

**Death:** A civilian or firefighter who dies; or is injured and becomes a fatality, within one year, as a direct result of a fire.

**Death Rate:** The number of civilian deaths per million population for a given year.

**Estimated Dollar Loss:** Loss provided by the firefighter on scene but does not reflect actual total loss, insurance settlement or loss of business.

**Failure to Clean:** Failure to clean chimneys, dryer lint trap, stove or oven grease/food build-up.

**Failure to Use Ordinary Care:** Failure to use ordinary care under the circumstances.

**Fire:** Any instance of uncontrolled burning.

**Heat Source Too Close:** Heat source used or placed too close to a combustible, such as candles in unsafe places, welding or cutting operations.

**Incendiary:** Based on evidence, the conclusion made that a fire was deliberately set.

**Injury:** Physical damage suffered by a civilian or firefighter as a direct result of a fire and that requires treatment by a medical professional (physician, nurse, paramedic, EMT) within one year of the incident, or physical damage which results in at least one day of restricted activity immediately following the incident.

**Injury Type:** Injuries include, but are not limited to, chemical, electrical and thermal burns, cuts, asphyxiation, dehydration, sprains and bleeding.

**Mechanical Failure, Malfunction:** Includes, but not limited to, power surge or overheat, part failure, leak or break, and lack of maintenance or worn out.

**Misuse of Heat Source:** Includes, but not limited to, youth playing with matches or lighter, inadequate control of open fires such as burn barrels or vagrant warming and cooking fires.

**Misuse of Material:** Includes, but not limited to, youth putting paper to a stove burner, placing a candle close to a curtain, using a container improperly like ashes in a paper bag, or flammable liquid or gas spilled or released accidentally near fire.

**Mobile Property:** Mobile property includes any vehicle designed to operate normally on highways, e.g., automobiles, motorcycles, buses, trucks, trailers etc. Other mobile property includes trains, boats, ships, aircraft, farm and construction vehicles.

**Mutual Aid:** Assistance given to one fire department, whether fire or non-fire aid, by another fire department outside of its normal service area.

**Non-Fire Incidents:** Incidents include, but not limited to, steam, air, gas or chemical overpressure ruptures, emergency medical calls, rescues, hazardous conditions, service calls, animal problems, assist other governmental agencies, standby or move-up to out of service area fire stations, floods and other natural conditions.

**Operational Deficiency:** Includes but not limited to, unattended kitchen stove, insufficient sized extension cord for appliance, improper start-up or shut down procedures such as woodstove flue closed or door left open, and collision, overturn, knockdown e.g. lamp overturned and motor vehicles accidents.

**Other Electrical Failure:** Power surge or heat from overloaded electrical equipment.

**Other Fires With or Without Value:** Can be fires in natural or cultivated vegetation such as trees, brush, grass, crops, orchards, nursery stock. Refuse fires outside, such as dumpsters or other outside receptacles, outside storage fire on industrial commercial property, not rubbish. Other outside fires include but are not limited to, barbecues, tree houses and portable toilets.

**Per Capita:** Per person average.

**Property:** Anything of value. Includes but not limited to buildings, structures, mobile property, land, roadways, water.

**Property Damage:** All forms of damage to structures, contents, machinery, mobile property, vegetation or anything else involved in the fire but not indirect losses, such as business interruption or temporary shelter provision.

**Rate:** A rate is a method of making comparisons of the number of occurrences between groups of different sizes.

**Reckless Act:** The person responsible for the fire failed to use ordinary care and exercised wanton disregard for life and property.

**Short Circuit, Ground Fault:** Electrical short in a structure's fixed wiring, receptacles, outlets switches, ground fault interrupters, car wires or wires touching vegetation.

**Residential Dwellings:** Single family and duplexes which include mobile homes, manufactured homes and child and adult foster care dwellings with up to five people. Multifamily dwellings include condominiums, town houses, row house, tenements or flats. Other residential dwellings include motels, hotels, boarding houses, dormitories, sorority and fraternity houses.

**Structure:** This includes buildings, attached decks, open platforms, bridges, roof assemblies over open areas, tents, air-supported structures, and grandstands.

**Structure Fire:** Any fire inside, on, under, or touching a structure.

**Suspicious:** Evidence that indicates the possibility that a fire was deliberately set.

**Trend:** The general direction in which something tends to move.

**Unlawful Incendiary or Suspicious:** Fires intentionally set, or believed to be intentionally set.

**Unattended Source of Heat:** Unattended burning candle, food cooking on stove.

**Youth Caused Fires:** Youth through seventeen years, involved in fires. Includes, but not limited to, children misusing a heat source (lighters, matches, fireworks) or placing a combustible in a heat source (woodstove, fireplace, heater), or an incendiary, suspicious or reckless act.



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