

**Oregon
Fatality Assessment &
Control Evaluation
(FACE)**

**Annual Report
2003**

Occupational Fatalities

Oregon Fatality Assessment and Control Evaluation (OR-FACE) is sponsored by the National Institute for Occupational Safety and Health, through the Oregon Department of Human Services. The program is administered by the Center for Research on Occupational and Environmental Toxicology at Oregon Health and Science University.

- OR-FACE surveillance, investigation, assessment, and outreach activities are reviewed on pages 5-11.
- Three specific areas of concern for occupational fatalities in Oregon are addressed in hazard alerts on pages 12-17: (a) logging & forestry, (b) mobile machinery, and (c) transportation.
- All 76 occupational fatalities in Oregon in 2003 are summarized in a series of charts on pages 18-22, and in abstracts for each incident on pages 23-38.

Oregon

Fatality Assessment & Control Evaluation

Annual Report 2003

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www.ohsu.edu/croet/face

This report is dedicated to the men and women in Oregon who have lost their lives as the result of traumatic workplace injuries, in the hope that better understanding of these fatal incidents may help to save the lives of other workers in similar situations.

FACE Definitions

The Oregon Fatality Assessment and Control Evaluation program will investigate work-related fatalities that are caused by a traumatic injury when the injury occurs within Oregon.

A location *within Oregon* means the incident, or some portion of the incident, occurs within the geographical boundaries of the state of Oregon, including the coastal waters, airspace, and subterranean portions of the state.

A *work relationship* exists if an incident occurs (a) on the employer's premises and the person was there to work, or (b) off the employer's premises and the person was there to work, or the event or exposure was related to the person's work or status as an employee.

Work is defined as duties, activities, or tasks that produce a product or result, are done in exchange for money, goods, services, profit, or benefit, and are legal activities.

In Scope

- Self-employed, family or volunteer workers who are exposed to the same work hazards and perform the same duties or functions as paid employees and that meet the work-relationship criteria
- Suicides and homicides that meet the work-relationship criteria
- Fatal events or exposures that occur when a person is in travel status, if the travel is for work purposes or is a condition of employment (excluding commute)

Out of Scope

- Institutionalized persons, including inmates of penal and mental institutions, sanitariums, and homes for the aged, infirm and needy, unless they are employed off the premises of their institutions
- Fatal heart attacks and strokes, unless causally related to a traumatic injury or exposure
- Fatal events or exposures that occur during a person's recreational activities that are not required by the employer
- Fatal events or exposures that occur during a person's commute to or from work

Adapted from Bureau of Labor Statistics (2001), *Census of Fatal Occupational Injuries: Definitions*. U.S. Department of Labor. Available online (Mar 11, 2003): <http://stats.bls.gov/iif/oshcdef.htm>



Summary

This annual report describes Oregon Fatality Assessment and Control Evaluation activities and findings in the program's first full year of operation in 2003. OR-FACE recorded 63 fatal occupational incidents in 2003, with 76 deaths.

The program receives first notification of incidents through a number of sources, mostly from state agencies and news sources. Each incident is coded and described in an abstract. Detailed investigative reports are produced in response to a list of priorities, partly specified by NIOSH, in combination with areas of local concern to Oregon.

Priority Areas

- Machine-related
- Logging and forestry
- Construction
- Street and highway work zones
- Agriculture
- Minority workers
- Youth (under age 18)

A traumatic injury is a specific incident within a single workday that produces an unintentional or intentional wound or damage to the body. Six basic types of event are recognized.

- Transportation accidents
- Contact with objects or equipment
- Exposure to harmful substances or environment
- Falls
- Assault and violence
- Fire and explosions

Introduction

The Oregon Fatality Assessment and Control Evaluation program (OR-FACE) monitors, investigates, and reports on occupational fatalities in Oregon, and collaborates with public and private partners to help prevent similar deaths. A national FACE program was begun by the National Institute for Occupational Safety and Health (NIOSH) in 1982, and was expanded to the states in 1992. Oregon joined 14 other state FACE programs in October 2002.

According to its mission, OR-FACE has developed staff and technical capacity for surveillance, investigation, assessment, and outreach related to occupational fatalities in the state. A team of four contribute management, data and outreach, investigation, and analysis, respectively and together.

The 76 occupational fatalities in Oregon in 2003 correspond to an incident rate of 4.45 per 100,000, when counting all workers in the civilian labor force. Further use of rates for specific occupations is avoided in this report, due to common confusion in the use of employment statistics. The civilian labor force includes both employed and unemployed, but some reported rates use only the employed, many exclude the self-employed, while others adjust for military personnel.

Rates are also less reliable with only 1 year of data. With descriptive detail, this report provides a snapshot and a foundation for later analyses. Of immediate value, the story of each loss of life presents a lesson in itself.

OR-FACE Network

Federal Agencies

National Institute for Occupational Safety and Health
Occupational Safety and Health Administration
National Transportation Safety Board
Bureau of Land Management
U.S. Coast Guard
Federal Aviation Administration
U.S. Forest Service
Mine Safety and Health Administration

Associations and Firms

Associated Oregon Loggers
Oregon Farm Bureau
SAIF Corporation (Workers' Comp)
Liberty Northwest (Workers' Comp)
Oregon Trucking Association
American Society of Safety Engineers
Association of General Contractors
American Industrial Hygiene Association
American Association of Occupational Health Nurses
American College of Occupational and Environmental Medicine
Oregon Labor Safety & Health Education Program
Oregon AFLCIO

State Agencies

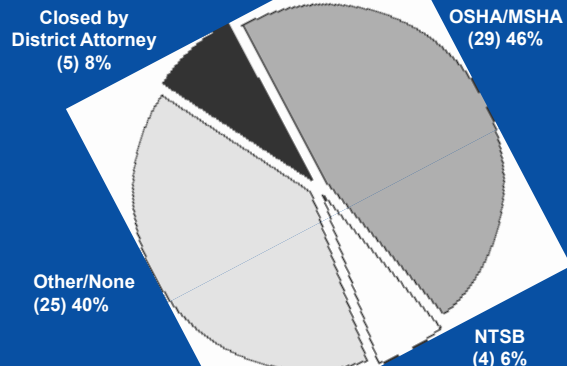
Department of Consumer & Business Services
– Census of Fatal Occupational Injuries
– Oregon Occupational Safety and Health Administration
– Information Management Division
– Workers' Compensation Division
Department of Human Services
– Center for Health Statistics
– Public Health Services
Employment Department
Bureau of Labor & Industries
– Wage & Hour Division: Child Labor
State Police
– Medical Examiner's Office
– State Fire Marshal
Department of Transportation
– Department of Motor Vehicles
Department of Forestry
FACE programs in other states

Local Agencies

Medical examiners, county sheriff offices
Portland Police Bureau
– Traffic Investigation Unit
Portland Fire Bureau
County health departments
Local fire departments

Share of OR-FACE incidents investigated by other safety agencies

OSHA = Oregon or U.S. Occupational Safety & Health Administration
MSHA = Mine Safety & Health Administration
NTSB = National Transportation Safety Board
Other/None = Sheriff, police, U.S. Coast Guard, or none



Surveillance

The OR-FACE network includes information sources in local, state, and federal government, as well as private associations and businesses. Cooperation among a variety of stakeholders interested in occupational health and safety is essential in all OR-FACE activities: assisting in surveillance, during the investigation and assessment of incidents, and in outreach to promote safe practices.

OR-FACE was initially notified of occupational fatalities most often by Oregon Department of Consumer and Business Services, which includes the Oregon Occupational Safety and Health Administration (OR-OSHA), Workers' Compensation Division, and Oregon Census of Fatal Occupational Injuries (CFOI). Another primary source of notification is the state Center for Health Statistics, which cooperates by identifying work-related death certificates.

A large share of initial notifications derive from news media. The OR-FACE team monitors local television and newspapers, uses a news clipping service, an online search-engine alert,

and other news sources. A significant number of notifications have occurred from other singular sources, including local medical examiners, federal agencies, another state FACE program, and a private employer association.

OR-FACE cases include all fatal occupational traumatic injuries that occur geographically within Oregon, whether or not the incident involves an Oregon resident. In contrast, OR-OSHA investigates only occupational fatalities within its legal jurisdiction, and CFOI includes only Oregon residents, at any location.

Of the 63 incidents recorded in 2003, nearly half were reported within 3 days of the date of injury. Most of the incidents with delayed notification involved events not reported to OR-OSHA that appeared later in official registries. Over a dozen additional incidents in 2003, for example, were identified as work-related by information on death certificates, circulated to OR-FACE several months into 2004. In a few cases, a delay in notification was due to a prolonged period between the date of injury and date of death.

Source of notification for OR-FACE incidents, 2003

"Other" includes one notification from each of the following.

- US-OSHA
- Medical examiner
- WA-FACE
- NIOSH
- Assn of General Contractors
- SAIF Corp.
- U.S. Coast Guard website
- NTSB website

Oregon Department
of Consumer &
Business Services
(28) 44%

News media
(15) 24%

Death Certificates
(12) 19%

Other
(8) 13%

OR-FACE Publications

Occupational Fatalities 2003

Investigation Reports

- Vehicle strikes utility worker in short-duration work zone
- Young camp counselor killed when cannon bursts to pieces
- Home construction worker falls down elevator shaft
- Auto salvage worker killed by unsecured car on transporter
- Worker is thrown from cab of crane and is crushed
- Shipyard welder ignites hydraulic fluid and is fatally burned
- Farmer is killed when he falls beneath moving combine
- Roofer's family member helping at worksite dies after falling through skylight
- Hispanic laborer drowns after falling into landscaping pond
- Construction worker dies when he leans out of the protective cage of a skid steer forklift and is crushed
- Load of lumber shifts and falls on construction worker killing him

Hazard Alert

- Truck mounted pile driver presents fatal electrocution hazard

Find published reports and other information on Oregon Fatality Assessment and Control Evaluation at the OR-FACE website (www.ohsu.edu/croet/face). New reports are published regularly.

Oregon Fatality Assessment and Control Evaluation reports are for information, research, or occupational injury control only. OR-FACE is a research program, and has no legal authority to enforce state or federal occupational safety and health standards. The identity of the decedent, employer, and witnesses are not included in reports or alerts.

FACE data is protected from disclosure under Oregon law. Data collected by the Oregon Department of Human Services in connection with special morbidity or mortality studies is confidential and may be used solely for the purpose of the study (ORS 432.060).

Investigation

Due to the sensitive nature of investigating loss of life, OR-FACE in its first year has concentrated on developing trust with a variety of public and private organizations in the state. Effective communication and friendly relations with fire, police, emergency workers, and medical examiners are often critical for access to sites and information. Although OR-FACE conducts independent investigations, in many instances an introduction by an OR-OSHA investigator has proven helpful in gaining the trust of both local authorities and employers.

Basic information is collected to produce an abstract for every recorded incident. Certain cases are then closed, while areas of particular concern are selected for further investigation. OR FACE does not generally investigate transportation-related incidents, which are typically covered by specific highway, air, or water transportation authorities with their own investigation programs. Also, incidents that result in a criminal investigation are excluded at least until a formal resolution, when information may become easier to obtain.

OR-FACE directs its investigation efforts by priority areas defined by NIOSH, in combination with additional priorities important to Oregon.

NIOSH

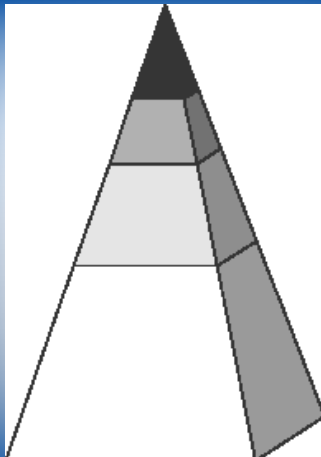
- Machine-related
- Street and highway work zones
- Hispanic
- Youth (under age 18)

OREGON

- Logging and forestry
- Construction
- Agriculture
- Minority workers

A full OR-FACE investigation includes an onsite visit to observe equipment and locations, and interview witnesses. Police, sheriff, and medical examiner reports are standard sources of information. When available, OR-OSHA investigative reports are an important additional source. The average period of investigation, concluding with a draft report, is about 3 months.

Certain nontarget incidents have been investigated, and remain active as areas of concern. Attention has been directed, for example, to patterns in exposure and transportation events.



Incident Investigation Status

- 13** Reports published
- 9** Draft in review
- 14** Active
(potential interest)
- 27** Closed
(no investigation)

An abstract is produced for each incident (see p. 23-39).

Assessment

Fatality Assessment and Control Evaluation is a research program, and is not designed to enforce occupational safety standards, nor determine blame. Assessment is provided in the investigation reports and hazard alerts, with a description of fatal incidents and work conditions, and recommendations for improving safety in particular situations that could affect workers in the future. The reports protect confidentiality, and adopt a tone that is nonjudgmental.

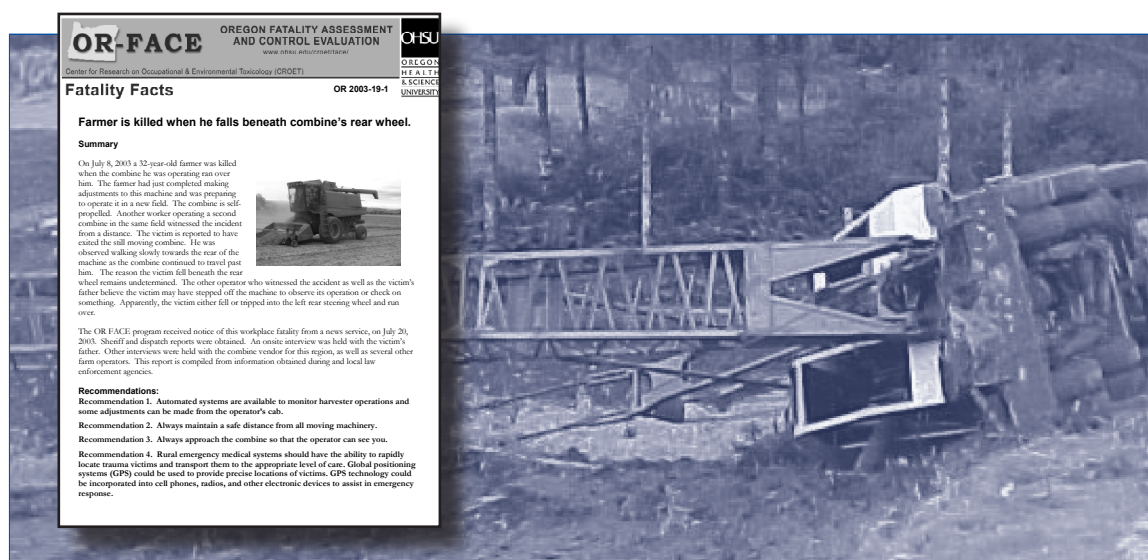
OR-FACE reports follow a format adopted from NIOSH that standardizes results for all of the participating FACE states. Reports cover details about the person, occupation, event, management and training, coworkers, and specifics of the involved equipment and procedures. Recommendations are developed from an analysis of root causes.

Existing laws, regulations, and safety guidelines often provide the specific language for OR-FACE recommendations. Safety standards from manufacturers or industry associations are also incorporated. Experts in the OR-FACE network

are valuable in helping to shape reasonable expectations in particular work environments. Prior to publication, draft reports are reviewed by an independent panel of occupational safety and injury prevention experts from NIOSH, OSHA, and local government agencies.

OR-FACE has published 11 investigation reports for 2003, plus a hazard alert that covers two additional incidents (see p. 8, and p. 14). The published reports are circulated to national and state agencies, private associations and employers, and through the OR-FACE website (www.ohsu.edu/croet/face). Investigation reports from all FACE states are delivered to NIOSH for collection in a national database. The state reports are the basis for national hazard alerts (www.cdc.gov/niosh/face).

FACE investigation reports are designed with a striking front page – including an abstract, photograph, and recommendations – to provide a quick, accessible summary. A hazard alert purposely emphasizes the graphic quality to encourage posting on work-area bulletin boards.



Outreach

In its first year, OR-FACE outreach activities concentrated on making introductions and developing working relationships. Networking in the field was initiated with alert bulletins from the Washington state FACE program to illustrate the intended purpose of OR-FACE. Later in the year, OR-FACE produced its own brochure. At an administrative level, contacts were made with many high-level state and national authorities, and presentations were made at a variety of conferences and committee meetings.

The OR-FACE website went online in September 2003. The site contains general program information and published reports, lists all recorded occupational fatalities in Oregon, and links to other state FACE programs and agencies related to occupational safety.

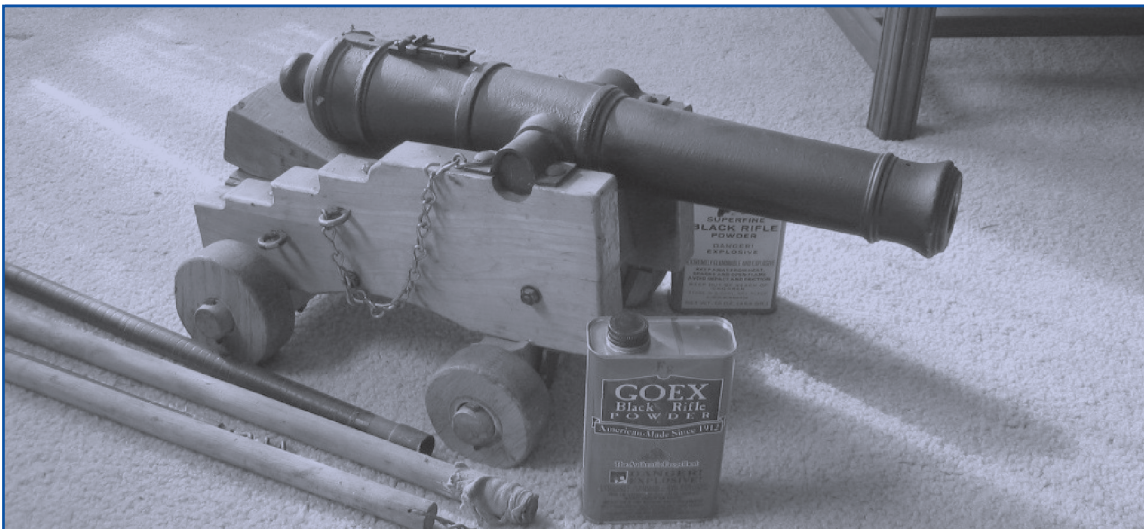
Direct collaborations to promote workplace safety have followed from specific incidents. OR-FACE coordinated a safety training session on rough-terrain forklifts, for example, both for the benefit of an employer, and to improve OR-FACE

capacity for assessment and recommendations involving this type of heavy equipment.

OR-FACE also responded to the homicide of a taxi driver, and was invited to testify with others at a city council meeting in support of an ordinance requiring the installation of hardware (GPS) to locate a taxi in an emergency. The equipment is now standard in city taxicabs.

Encouraging safe work practices may also require a legislative law or rule change. Following a 2003 fatality of a youth using explosives, OR-FACE endorsed a rule change by the Oregon Bureau of Labor and Industries to restrict employed youth under age 18 from using explosives.

Networking is a continuous process that offers benefits in all phases of OR-FACE activities. Good relations with a wide variety of agencies, associations, and leaders are invaluable for gaining access to information, improving analytical capacity, and cooperating in efforts to promote safe work practices.



Loggers have the highest fatality rate of workers in Oregon.
Working as a faller is by far the deadliest job in the state.



Alert – Logging & Forestry

Logging is the most dangerous occupation in Oregon. Five of the 11 logging fatalities in 2003 involved fallers, making the falling of trees by far the deadliest occupation in the state. Logging fatalities recorded by CFOI since 1995 show an average of 6-7 incidents per year, corresponding to the nontransportation logging incidents recorded by OR-FACE in 2003.

Six logging fatalities involved heavy machinery or trucks. Three incidents involved log truck drivers. One victim was thrown from a bulldozer when it toppled off a skid road into a ravine. Two victims were struck by flying or falling objects in yarding operations.

Fatalities also occurred in other forest-related occupations, including eight firefighters in a transportation incident; one pilot and one government forester in an aviation incident; and a conservation tree trimmer in a fall.

The logging industry in Oregon is composed of many communities with long traditions, not easily accessible to a new outside government or

academic program. OR-FACE has been working to gain trust and acceptance in the logging community.

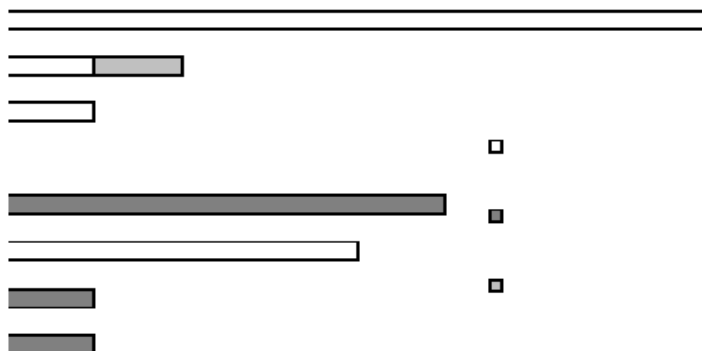
Early in 2003, OR-FACE organized a formal meeting with the Association of Oregon Loggers, the U.S. Forest Service, and SAIF Corp (Workers' Compensation) to discuss the goals, objectives and strategies of the new state FACE program. Following this initial meeting, OR-FACE met with the Oregon Forestry Committee, composed of individuals from the Association of Oregon Loggers, private and public logging employers, OR-OSHA, and other logging experts.

Coordination with the Association of Oregon Loggers will facilitate access to logging sites, and improve communication efforts in workplace safety with logging operators in the field. Maintaining a logging network also gives OR-FACE access to technical advice. Six incident reports on logging fatalities have been drafted, and are in the process of review and completion, following assessment by experts in Oregon's logging community.

Logging & forest-related incidents by occupation, 2003

FOREST-RELATED

LOGGING



Alert – Mobile Machinery

As a priority area, all machine-related fatalities have been investigated by OR-FACE. Operation of heavy equipment is a common source of fatal occupational incidents, particularly with forklifts and other front-end loaders. Overextending the reach of hoist, exiting the operator's cage, and poor visibility were sources of fatalities.

Construction, logging, and transportation were the main occupations where fatal incidents occurred with heavy equipment. Only one incident involved a farm worker. Although the incident was singular, the activity behind it appears to be widespread, indicating a continuing risk. Tractors and other farm machinery are common sources of fatalities in other states.

Among farmers, exiting the cab while a machine is moving – in this case to check the seed flow at the rear of a combine – is reportedly a common practice. The incident with an Oregon farmer highlights an unresolved conflict between safety

guidelines and actual conduct. Assessing this farm incident highlighted the difficulty of making reasonable recommendations in some instances. Safety standards cannot be abrogated, yet any proposed solutions in changing behavior also need to conform to activities that workers are likely to accept in their pursuit of efficient production.

Similarly, in several machine-related incidents, a worker might have been protected by use of personal safety belts. Here, too, a conflict exists between accepted safety standards and actual practice. Safety belts in a cab are perceived in many cases to be too restrictive while working with heavy machinery. Such conflicts appear to demand both structural and behavioral solutions.

Several incidents indicate the need for workers to pay attention while working in the vicinity of heavy machinery. Equipment should be properly shut down before exiting the operator's cage. Standing beneath or behind, or leaning out of mobile machinery is extremely hazardous.



ELECTROCUTION THREAT

Pile drivers used in guardrail construction along highways were the source of two successive fatalities in 2003, when the top end of the augur came in contact with a high-voltage line overhead. The prevalence of similar electrocution incidents in other states documented a pattern that prompted OR-FACE to produce a hazard alert to target the operation of pile drivers along highways.

**Forklifts and front-end loaders are notorious killers.
These machines demand extra attention to safety.**



Alert – Transportation

Transportation events accounted for over 40 percent of all occupational fatalities in Oregon in 2003, with 33 fatalities in 21 incidents. All multiple-victim incidents but one (fishing) were transportation events. Although transportation is not a target area for FACE assessment, the frequency of incidents in transportation events deserves attention.

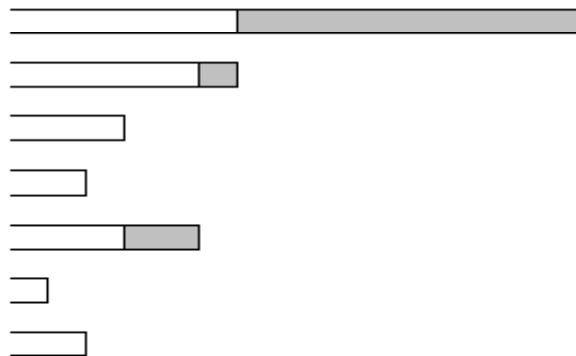
Highway work zones are a designated FACE priority, and OR-FACE produced an investigation report on a utility worker in a temporary work zone. A report was also drafted for a nonhighway incident involving a loaded truck on a farm road. Occasionally, OR-FACE investigated other transportation incidents and drafted summaries to identify root causes that might be addressed in safe practices for particular industries or employers.

During the year, autos were involved in two incidents, a light truck or van in six incidents, and a heavy truck or semi-truck and trailer in five highway incidents (plus one in a collision with a light truck), and three nonhighway incidents.

Two additional incidents involved pedestrians, and three involved air transportation. A water incident involving a charter fishing excursion from a coastal port claimed one worker's life, but also claimed many other passenger lives. Nonworkers are regularly involved in multiple fatalities in transportation events.

Most motor-vehicle incidents involved a single vehicle running off the road or losing control. Four incidents on the highway involved collisions with other vehicles, three in a light truck or van, and one in a car (caused by a pickup). One devastating head-on collision killed eight firefighters in a van. Only one collision originated with a transportation worker, and none with a professional driver. Light trucks or vans were the source of all multiple fatalities, either in a collision or by losing control.

In at least two incidents, not wearing a seat belt was a contributing factor. Driver impairment due to alcohol use may have contributed to at least two incidents. Driver distraction appeared to be a factor in at least two other incidents. A medical problem was suspected in two incidents.



**The largest number of worker fatalities involve transportation.
Virtually all multiple fatalities were in transportation events.**

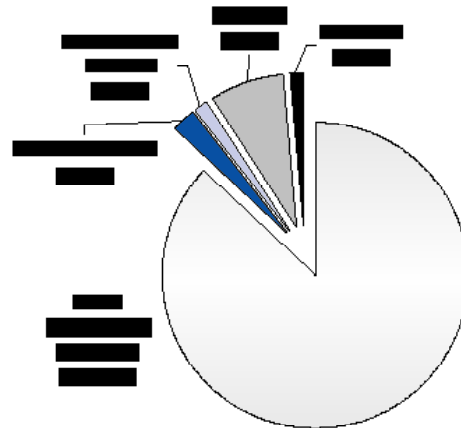


Charts

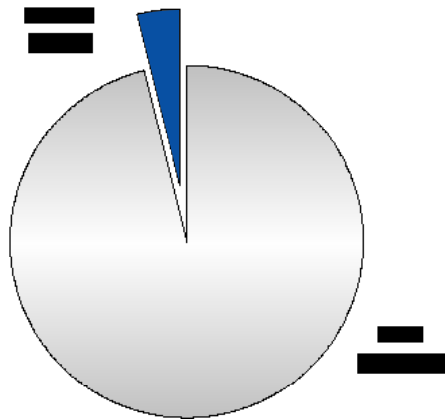
The following charts present aggregate data on occupational fatalities in Oregon in 2003.

Reliable conclusions from a single year are unlikely, but the data do suggest associations with specific industries, events, times, and other factors. The low incidence of occupational fatalities due to violence is already noticeable, comprising about 6% of total events in Oregon, compared to high incidence in other states, and a national average of 16% of all fatal events in 2003.

Worker fatalities by race/ethnicity

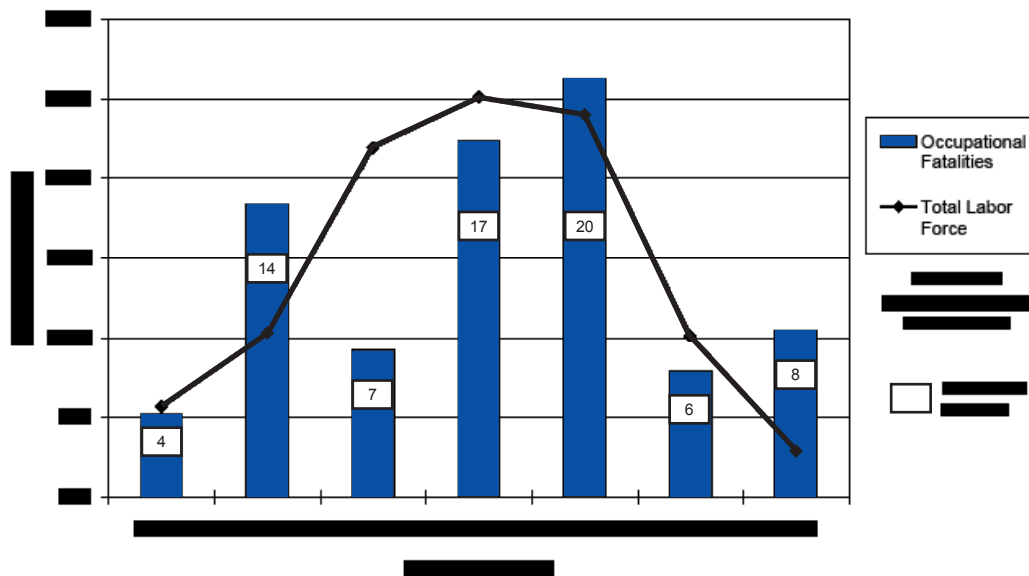


Worker fatalities by gender, 2003



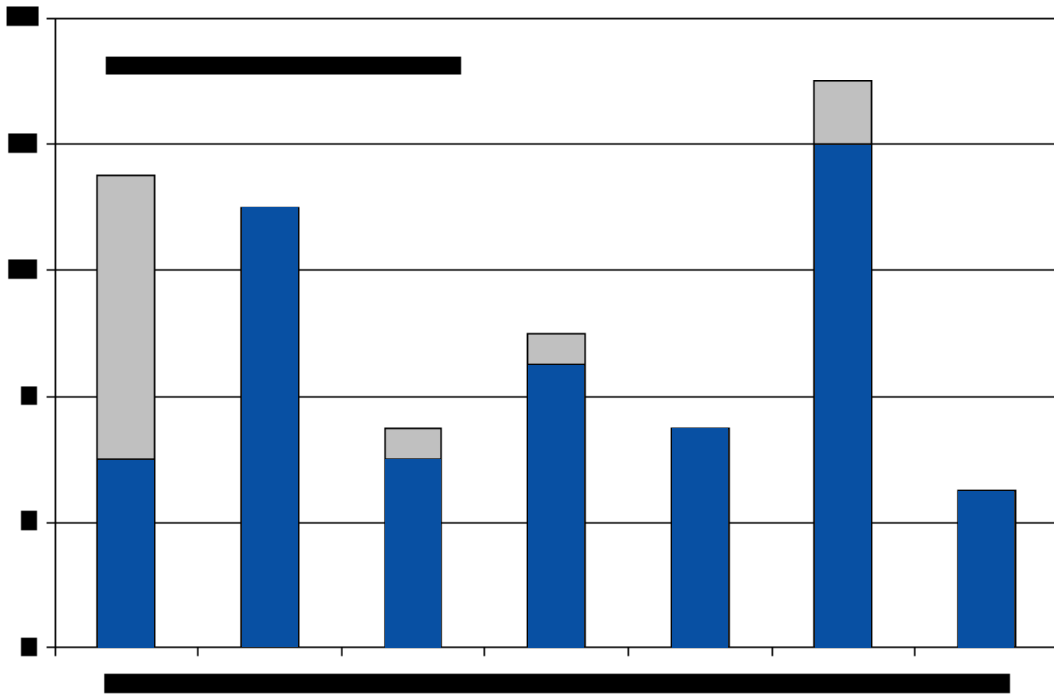
Raw numbers are often misleading, and are preferably interpreted in terms of rates; but rates must also be interpreted cautiously. The age chart below shows a higher fatality rate among workers aged 20-24, and aged 65+. Other charts suggest that female and Asian workers display a lower proportional fatality rate. The rates could suggest an association with age, gender, or race, but more likely reflect differences in the type of work performed.

**Occupational fatalities in Oregon by age, 2003
compared to age distribution of civilian labor force in Oregon**

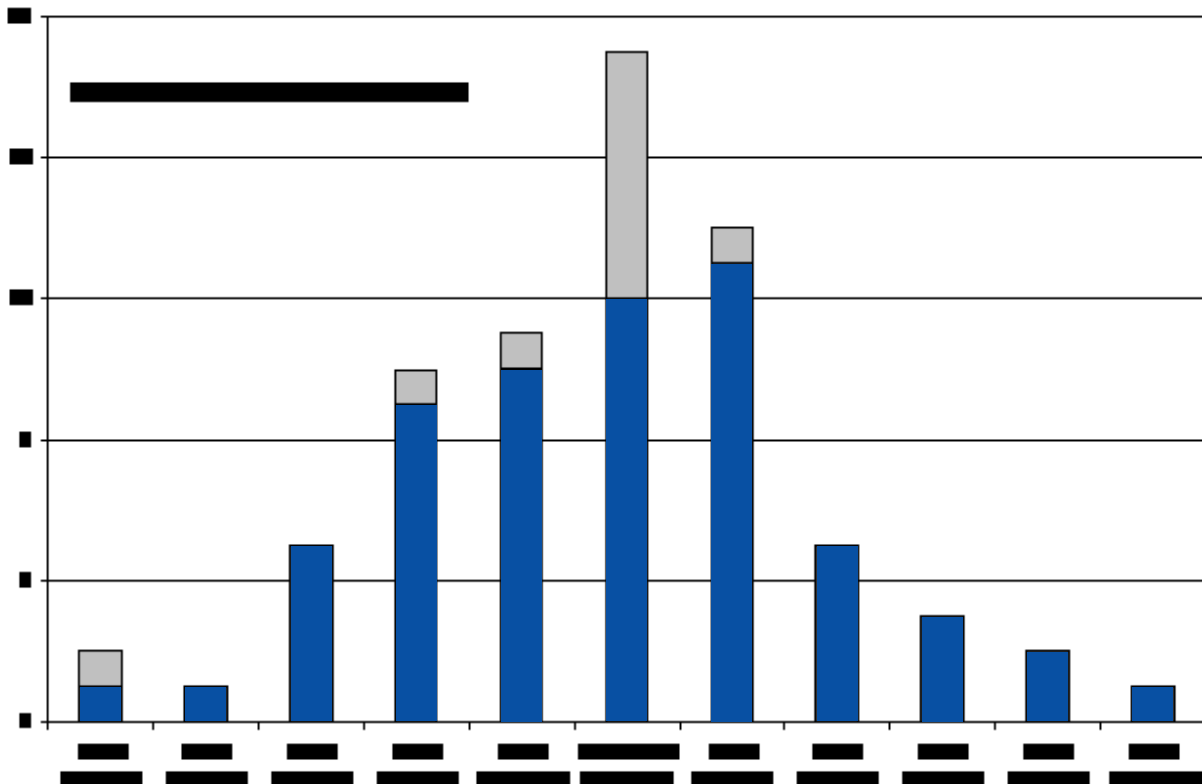


Charts

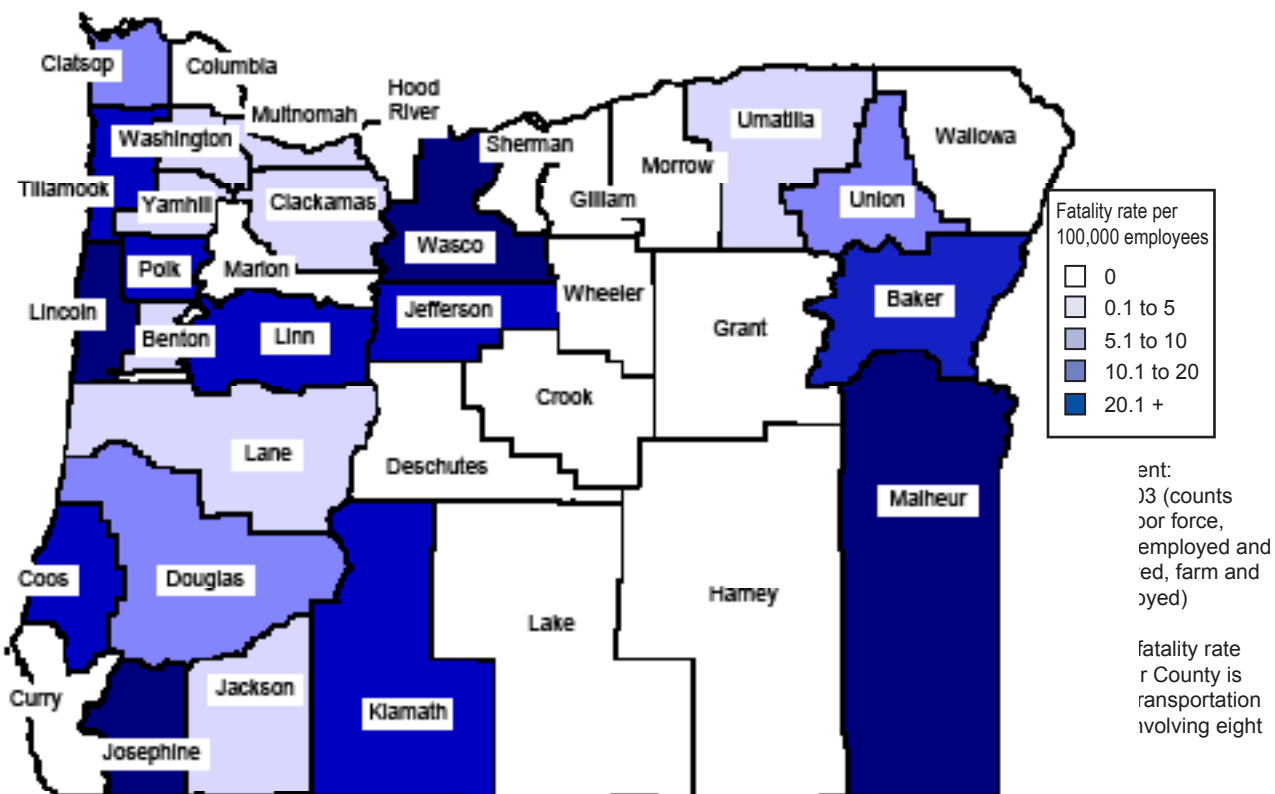
Worker fatal incidents and total fatalities by day, 2003



Worker fatal incidents and total fatalities by time of incident 2003



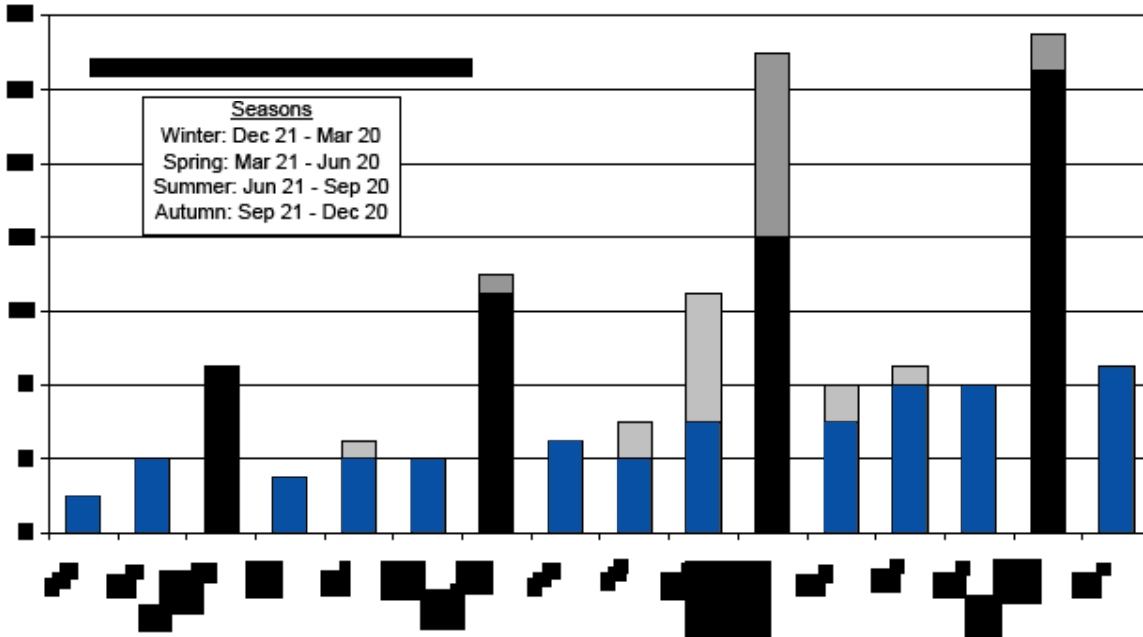
Occupational fatality rates in Oregon by county, 2003

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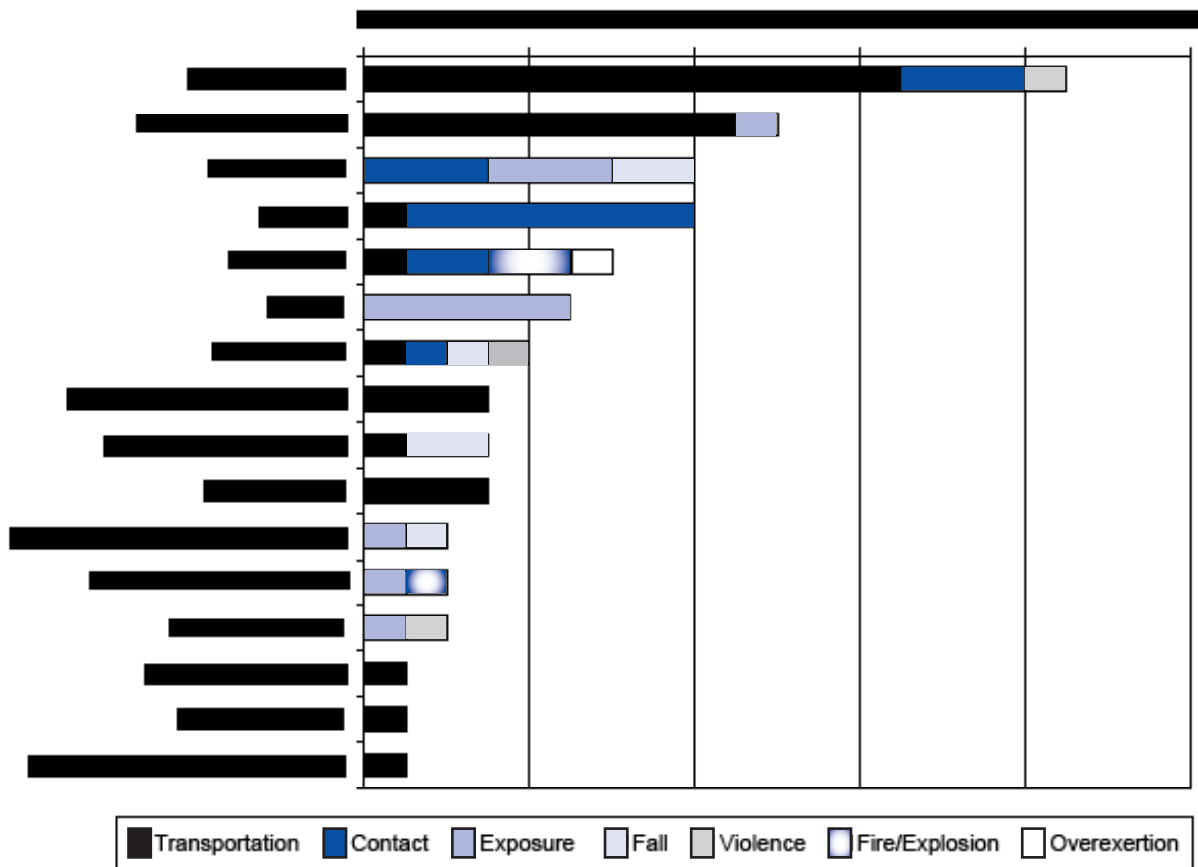
Source: U.S. Census and LAUS 2003

Charts

Worker fatal incidents and total fatalities by month and season, 2003

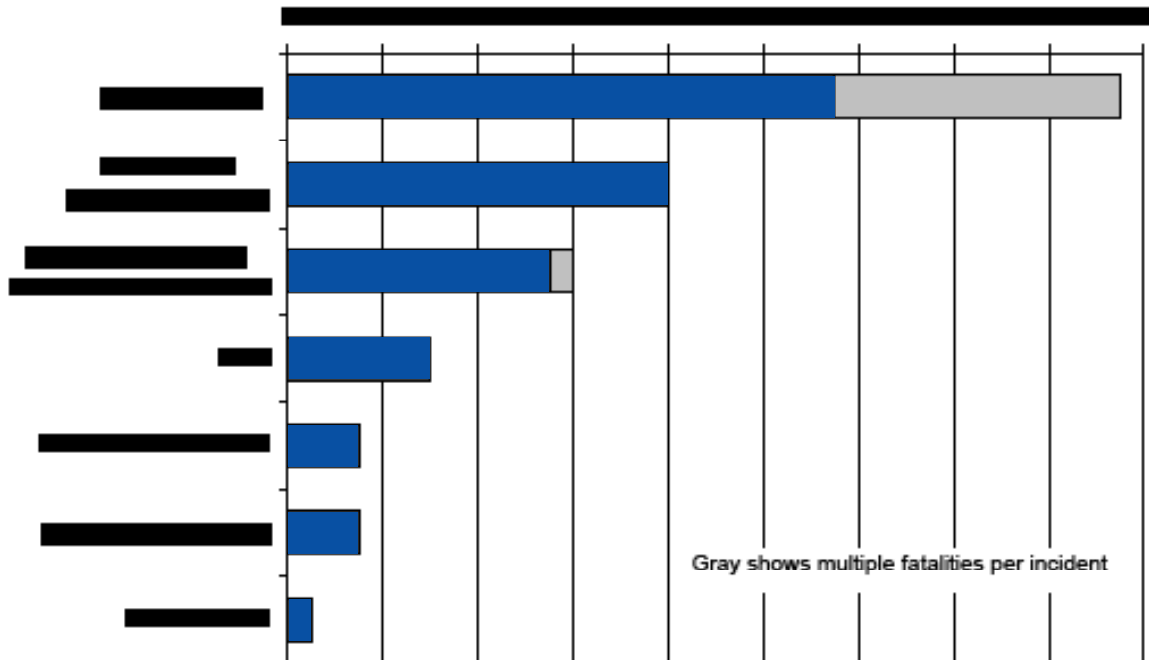


Worker fatalities in Oregon by occupation and event, 2003

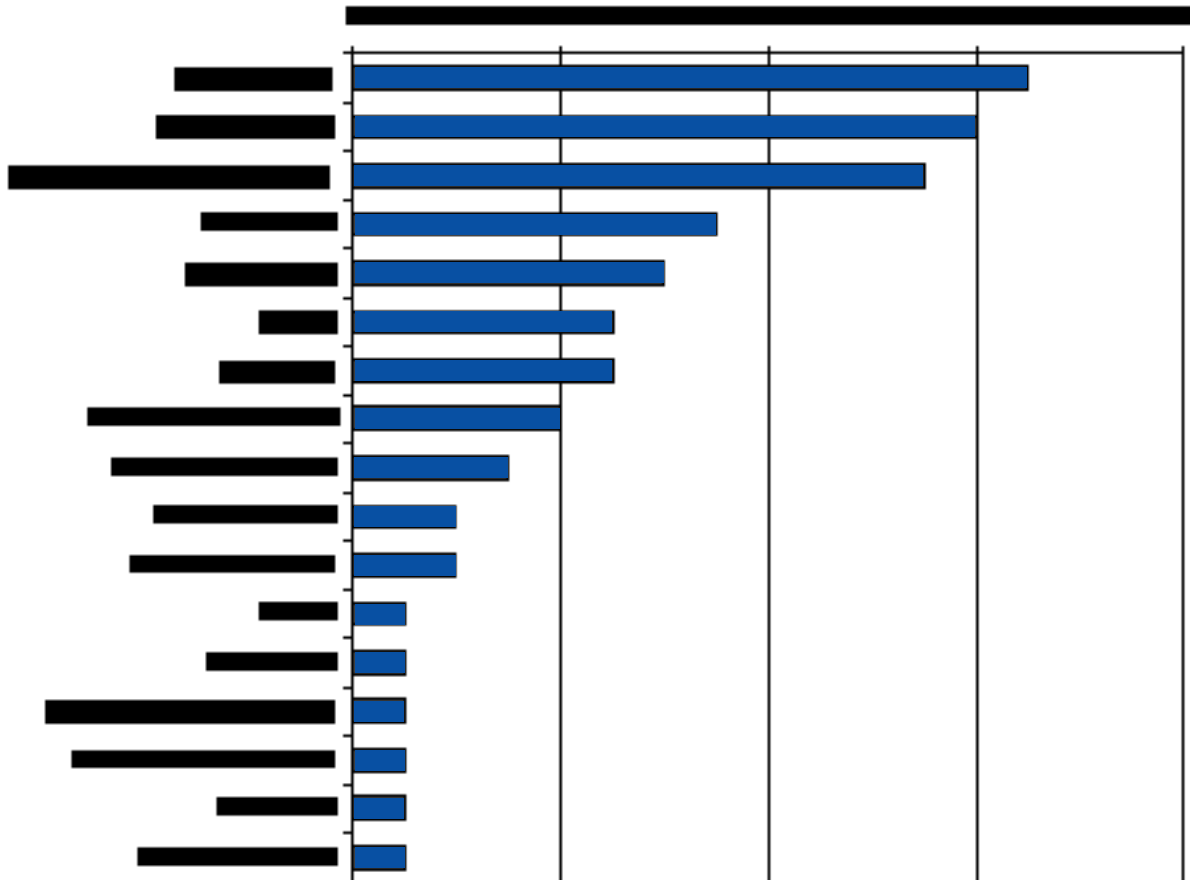


Charts

Worker fatal incidents and total fatalities by type of event, 2003



Worker fatalities in Oregon by industry, 2003



INFORMATION KEY

Description

Industry
Occupation

Date of Incident
County of Incident
OR-FACE Number

Abstracts

of fatal occupational incidents in Oregon by type of event

2003

**Transportation – Contact – Exposure – Falls
Violence – Fires & Explosions – Overexertion**

Transportation

<i>Pickup head-on</i>	A 44-yr-old telecommunications equipment installer died on his way home from a meeting, when he was apparently distracted and veered into oncoming traffic. His company pickup truck collided head-on with a van. Two other persons were killed in the incident.
Information Install/Maintain/Repair	
January 16 Clackamas OR 2003-11-1	
<i>Trucker ejected</i>	A 62-yr-old truck driver was killed in semi-truck and trailer rollover on a flat curve on I-5 in southern Oregon. The driver lost control of the vehicle as it veered onto the gravel shoulder. The trailer tilted to the right and pulled the truck onto the passenger side. The driver was ejected and run over. The victim was reportedly not wearing a seat belt. The medical examiner found an ethyl alcohol level of 0.13, above the legal limit in Oregon of 0.08.
Transportation Transportation	
February 14 Josephine OR 2003-12-1	
<i>Fire truck hits tree</i>	A 53-yr-old firefighter was killed while riding in the front passenger seat of a fire truck, during hazardous materials training on a rainy night. The firefighter was one of three riders in the truck. The driver moved the truck to the side of a narrow road for an oncoming vehicle, and the rear tire left the edge of the pavement and fell into a 40-inch ditch. The driver attempted to regain the roadway, but the truck bounced over two driveways, returned to the ditch, and crashed into a tree. The front passenger side of the cab was crushed. The victim was the only occupant injured.
Public Administration Protective Services	
March 19 Polk OR 2003-03-1	

Worker Fatalities – Transportation

<p><i>Airplane crash</i></p> <p>(1) Transportation Transportation (2) Profession/Tech. Architect</p> <p>April 9 Josephine OR 2003-05-2</p>	<p>A 75-yr-old male pilot and a 54-yr-old male architect were killed in an airplane crash. The pilot was an ex-Alaska bush pilot, flying a fare to a scheduled business meeting. The Cessna 207 struck a 60-degree slope at high speed. There was low cloud cover at the time of the incident. The pilot did not radio a distress call.</p>
<p><i>Boat capsize at bar</i></p> <p>Transportation Transportation</p> <p>June 14 Tillamook OR 2003-14-1</p>	<p>A 66-yr-old skipper of a charter fishing boat was drowned when his boat swamped in a series of large waves while crossing the bar into the ocean. Another boat that had just crossed the bar communicated to the skipper that a log was rolling in the surf. The skipper's boat may have struck the log and stripped the prop, causing it to lose steerage. Nineteen passengers and crew were on the boat. Eight persons were rescued, and 11 were dead or missing, including the skipper.</p>
<p><i>Band veers off road</i></p> <p>Arts/Entertainment Musicians</p> <p>July 20 Linn OR 2003-26-3</p>	<p>Three musicians, aged 20, 21, and 23, were killed when their van left the road while returning home from an out-of-state band performance. The van ran off the paved surface and overturned while trying to get back on the road. The victims were not wearing seatbelts and were ejected from the vehicle. Two other passengers wearing seatbelts were treated and released.</p>
<p><i>Trucker beside truck</i></p> <p>Transportation Transportation</p> <p>July 30 Union OR 2003-50-1</p>	<p>A 44-yr-old long-haul truck driver was killed when he was struck by another truck while standing beside his vehicle on the side of the highway on a clear day. The driver was parked 3 ft beyond the fog line on the side of the road. Jumper cables were found on the ground, indicating he may have been standing on the driver's side between the truck and trailer where the battery is accessible. The driver of the triple trailer that struck the victim was reportedly cited in the incident.</p>
<p><i>Firefighters in traffic</i></p> <p>Admin./Support/ Waste/Remediation Protective Services</p> <p>August 24 Malheur OR 2003-23-8</p>	<p>Eight members of a 19-man wildland firefighting crew were killed in a traffic accident after spending the previous 11 days fighting forest fires. Victims ranged in age from 19 to 38. The crew had been demobilized the previous evening. Weather was sunny and dry. The crew had been on the road about 3 hrs when a crew driver in a 12-passenger van attempted to pass a semi-trailer on a downhill left-hand curve, in a marked no-passing zone. The van struck an oncoming semi-trailer head on. This particular patch of road is known for frequent accidents. Alcohol may have played a role in the incident.</p>

Worker Fatalities – Transportation

<p><i>Cat in ravine</i></p> <p>Forestry/Logging Logging</p> <p>September 6 Jackson OR 2003-29-1</p>	<p>A 75-yr-old logger, operating a large D-6H Caterpillar tractor, was killed when the Cat toppled into a ravine. The operator was reopening an old skid road. The bulldozer lost traction on a flat rock under a surface of scabble rock at the top of the hill, and slid backwards off the road against a tree. As the operator tried to turn downhill and get back on the road, the bulldozer slipped off a 20-25% grade and tumbled about 150 ft to a logging road, where the operator was ejected. The bulldozer bounced another 450 ft into a ravine. Fatal injuries probably occurred when the victim was thrown around in the cab, before being ejected.</p>
<p><i>Explosive collision</i></p> <p>Transportation Transportation</p> <p>September 26 Wasco OR 2003-31-2</p>	<p>A 41-yr-old male truck driver in a semi-truck with an empty trailer, and a 48-yr-old highway stripper in a 1-ton flatbed pickup truck, were both killed in a fiery head-on collision. The stripper, hauling 26 drums on an open bed, attempted to pass four cars at high speed in a spot with poor visibility. The pickup appeared to lose a barrel while passing, and a sharp explosion was heard. The pickup began to fishtail, sideswiped an oncoming car, and then collided head-on with the semi. The pickup was already a ball of flame when it sideswiped the oncoming car. The semi was almost completely consumed in the flames. A few of the barrels on the pickup contained 5-10 gallons of a solvent, toluene, used in painting. The driver of the sideswiped car was uninjured.</p>
<p><i>SUV enters work zone</i></p> <p>Utilities Production</p> <p>October 3 Multnomah OR 2003-32-1</p>	<p>A 57-yr-old gas utility worker was killed when an SUV entered a short-term work zone and struck him on the edge of a five-lane city road. The worker was locating buried gas lines for a construction project. Traffic was light, speed posted 35 mph, weather dry and bright, and the road flat, straight, and unobstructed. The worker parked the company pickup half on the sidewalk and half in the bike lane, and correctly set up safety cones for a temporary worksite. He was wearing a bright red T-shirt. The SUV veered off the road and struck the worker when his back was turned to oncoming traffic. The driver of the SUV was allegedly talking on a cell phone.</p>
<p><i>Farm truck overturns</i></p> <p>Agriculture Farm/Ranch</p> <p>October 11 Klamath OR 2003-33-1</p>	<p>A 20-yr-old male Hispanic farm truck driver was killed when his truck full of potatoes overturned in an irrigation ditch at the edge of a farm field. The incident occurred about 13 hours after the driver began work in the morning on his sixth full day of work in a row. The truck had no seat belts. The truck verged into the loose soil at the edge of the ditch, and continued until it overturned and came to rest with the cab submerged in the water in the ditch. Water was 4-7 ft deep. Cause of death was probably drowning. The driver's reported blood alcohol level was 0.03.</p>
<p><i>Helicopter hits cable</i></p> <p>(1) Forestry/Logging Transportation (2) Public Admin. Life Science</p> <p>October 14 Lane OR 2003-34-2</p>	<p>A 57-yr-old male helicopter pilot, employed by a large timber firm, and a 53-yr-old male state forestry supervisor, were killed when a helicopter they were using to scout potential water sources for fire season struck an electric utility cable and crashed. The pilot had been flying for 19 years. The helicopter had just come down out of low-hanging fog, traveling along a river in a remote and mountainous area, when it struck a neutral high-tension line 250-300 ft off the ground, just below the main rotor. The helicopter crashed in the river. Rescue workers found the two victims still strapped in their seats. The utility line has hung there since 1956 without warning markers. The pilot had been warned of lines near rivers, but the flight maps used did not depict overhead transmission lines in the area.</p>

Worker Fatalities – Transportation

<p><i>Dump truck at bridge</i></p> <p>Transportation Transportation</p> <p>October 20 Polk OR 2003-54-1</p>	<p>A 60-yr-old owner/operator of a dump-truck business was killed when a wooden bridge collapsed under the weight of his truck while hauling a load of rock. The bridge was part of a residential driveway, and not the proper location for the delivery. The bridge was constructed of 4x6 planks, wide enough for a single vehicle, crossing a creek that was 15 ft wide. A rear wheel of the truck apparently broke the planks overhanging the main support beams, and the truck rolled off the bridge, coming to rest on the driver's side. The operator was partially ejected from the cab and crushed.</p>
<p><i>Plane crash in storm</i></p> <p>Transportation Management</p> <p>October 20 Clatsop OR 2003-63-1</p>	<p>A 52-yr-old owner of a bus company was killed while piloting a single-engine Beech A36 aircraft in stormy weather. The pilot was traveling to meetings in different cities. He had been a pilot since 1995, and had logged 6,350 flight hours. The pilot approached an airstrip, and attempted to land in conditions of heavy rain, high wind gusts, and low visibility. The aircraft touched down, then powered up and swung upward toward a densely forested area. The plane impacted a hemlock tree 40-50 ft off the ground, trunk 18 in. diameter, then struck several smaller trees before crashing into the ground. There was no evidence of mechanical failure.</p>
<p><i>Collision at intersection</i></p> <p>Education services Computer/Math</p> <p>November 3 Benton OR 2003-47-1</p>	<p>A 46-yr-old female educator was killed in a traffic accident while traveling between schools. Her car was turning left from a left-turn lane, controlled by a separate signal. As she entered the intersection, a pickup truck struck her car. A witness traveling behind the pickup reported the light was red, and the educator's car had a green light. The pickup did not slow down at the intersection. Posted speed was 55 mph.</p>
<p><i>Truck overturns at exit</i></p> <p>Transportation Transportation</p> <p>November 14 Josephine OR 2003-49-1</p>	<p>A 38-yr-old long-haul truck driver for a regional dairy foods business, operating a semi-truck and single trailer, was killed when his truck overturned on a freeway exit ramp. The truck was traveling at about 20 mph, according to an onboard computer. The exit ramp is posted at 50 mph. The truck rolled over at a right turn at the end of the ramp, and struck a telephone pole.</p>
<p><i>Van leaves highway</i></p> <p>Finance/Insurance Management</p> <p>November 19 Wasco OR 2003-56-1</p>	<p>A 54-yr-old chief executive of a financial-management firm was killed on the freeway when his van drifted off the roadway and crashed into a stone embankment in daylight and rainy weather. There was no evidence of mechanical failure or medical problems.</p>

Worker Fatalities – Transportation

<p><i>Log truck rollover</i></p> <p>Transportation Transportation</p> <p>December 3 Lincoln OR 2003-58-1</p>	<p>A 54-yr-old owner of a diesel-engine repair and trucking business was killed when his log truck overturned. On a logging road with a load of logs, the driver failed to negotiate a curve on a 14-degree downgrade, causing the trailer to leave the roadway and pull over the tractor, which came to rest on the driver's side.</p>
<p><i>Taxi van rollover</i></p> <p>Transportation Transportation</p> <p>December 9 Lincoln OR 2003-62-1</p>	<p>A 46-yr-old owner/operator of a taxi service, was killed when his van left the highway, rolled over, and went airborne before coming to rest upside down. The driver was not wearing a seat belt and was ejected. The driver went off the road on his way to pick up a fare, traveling 43 mph in a 30 mph zone. There was no evident external cause for the crash. The victim had a history of medical problems and driving restrictions due to poor health.</p>
<p><i>Log truck hits tree</i></p> <p>Forestry/Logging Transportation</p> <p>December 11 Lincoln OR 2003-52-1</p>	<p>A 71-yr-old truck driver was killed when his log truck failed to negotiate a turn and ran off the roadway. The truck ran into trees and came to rest on the passenger side. The cab was sheared off just above the dash. The driver was ejected. The truck showed a speed of 45 mph, with no sign of braking. An officer on the scene suspected the incident could have resulted from a medical condition.</p>
<p><i>Black ice rollover</i></p> <p>Manufacturing Management</p> <p>December 17 Klamath OR 2003-61-1</p>	<p>A 65-yr-old owner of a printing/graphics firm was killed when his automobile struck black ice, rolled over and hit a tree.</p>
<p><i>Unsecured boom</i></p> <p>Forestry/Logging Transportation</p> <p>December 19 Klamath OR 2003-53-1</p>	<p>A 36-yr-old log truck driver was killed while passing an oncoming truck transporting a log loader. The boom of the log loader had not been adequately secured, and it swung outward into the oncoming lane just at the moment of passing. The cab of the log truck driven by the victim was completely shorn off.</p>

Worker Fatalities – Contact

Contact with objects/equipment

<i>Yarder guylines</i> Forestry/Logging Logging April 18 Polk OR 2003-06-1	A 42-yr-old male logger, working as a chaser, was killed while standing on a landing site in front of a delimber. A nearby yarder was in the process of completing a turn on a cable-logging operation, when two of the four stumps used to secure the tower's guylines failed. The yarder tower lost stability and fell on the boom of the delimber, sheering off a sheave (cable pulley guide) from the front of the boom. The sheave fell and struck the chaser on the head.
<i>Skyline cable</i> Forestry/Logging Logging April 28 Lincoln OR 2003-07-1	A 37-yr-old logger, working as a hooktender, was struck and killed by a skyline cable. The hooktender and a coworker had pulled slack in the cable to reach a new tailhold. The two loggers were standing within 15 ft in front of the stump, when the hooktender called to have the skyline pulled taut by the yarder. The cable was caught in a slash pile, but continued slowly moving until it broke free, whipped outward, and struck the hooktender in the chest.
<i>Old snag</i> Forestry/Logging Logging May 9 Washington OR 2003-09-1	A 52-yr-old logger, working as a faller, was killed when the top of a snag broke off and fell on him. The faller, with over 30 yrs of experience falling trees, was working with two others in a thinning operation. He had cut two trees near an old-growth snag that was 40 ft tall and 36 in. diameter. He was delimbing and bucking the fallen trees about 35 ft from the base of the snag. The trees rested against the base of the snag, and the vibrations evidently caused the top 20 ft of the snag to break off and fall on the victim.
<i>Caught in stamper</i> Manufacturing Production May 28 Douglas OR 2003-55-1	A 42-yr-old lumber mill worker died in the hospital 5 months after sustaining multiple injuries to his left leg when he was caught in a stamper machine at work. His leg was broken in three places, and he was in physical therapy. The night before his death, the worker arrived at a hospital emergency department with pain, and was admitted with a diagnosis of sepsis of the left knee. During the night he was given several intravenous doses of pain medication. A nurse found the victim struggling to breathe, and efforts to clear ventilation were unsuccessful. Cause of death was aspiration of gastric content.
<i>Skid steer hoist</i> Construction Construction June 3 Klamath OR 2003-15-1	A 32-yr-old construction worker was killed when he leaned out of the protective cage of a skid-steer loader, and was crushed when the hoist unexpectedly descended. The skid steer's load was about 3 ft off the ground, with a 2x4 propped underneath to support it. While wearing his tool belt, the worker got in the skid steer to move it out of the way of a paving operation. Noticing the 2x4 prop, he leaned out of the cage with his hammer to remove it, but the hammer was too short. He then lifted the safety bar and extended himself out beneath the lift assembly. His tool belt evidently activated the lift while he was in this position.

Worker Fatalities – Contact

<p><i>Dead treetop</i></p> <p>Forestry/Logging Logging</p> <p>June 9 Clackamas OR 2003-13-1</p>	<p>A 45-yr-old logger, working as a faller, was killed when the dead top of the tree he was falling snapped back after hitting a danger tree. The crew was working in a USFS old-growth thinning operation, where the only trees to be cut had been pre-marked. The 50 ft treetop of the faller's 170 ft tree sprang with considerable force about 150 ft to reach his position. His view of the oncoming treetop may have been partially obstructed by a shorter, intervening tree. The victim had over 20 years of experience and was well known as a careful faller.</p>
<p><i>Lumber load</i></p> <p>Construction Construction</p> <p>June 23 Washington OR 2003-16-1</p>	<p>A 32-yr-old construction worker was killed at a home under construction when a load of lumber being raised by a rough-terrain forklift shifted and fell on him. The load was extended beyond the capacity of the forklift, and the rear of the machine upended. The worker was on top of a ladder, climbing through a stairwell hole onto the second floor. A coworker guiding the load and acting as a spotter did not know he was there.</p>
<p><i>Moving combine</i></p> <p>Agriculture Farm/Ranch</p> <p>July 7 Polk OR 2003-19-1</p>	<p>A 32-yr-old grass farmer was killed when he fell under the rear wheel of his moving combine. Entering a new field after making adjustments to the combine, the farmer exited the cab to check the seed flow at the rear while the combine was operating. The farmer was wearing cowboy boots instead of his usual sneakers, and he may have tripped. The wheel apparently grabbed his arm and pulled him under.</p>
<p><i>Car carrier</i></p> <p>Wholesale trade Transportation</p> <p>July 25 Multnomah OR 2003-18-1</p>	<p>A 37-yr-old truck driver for an auto salvage firm was killed when a car being loaded onto his three-car carrier rolled off the top deck and crushed him. The salvaged car was being lifted into position by a forklift, operated by an employee of the auction yard. The car was unsecured on the forks. The truck driver was helping to load from the lower deck, and attached a chain to the undercarriage of the car. The chain was evidently not hooked to the solid frame of the car, and it rolled forward off the top deck and over the driver as he turned away.</p>
<p><i>Log kickback</i></p> <p>Forestry/Logging Logging</p> <p>August 11 Jefferson OR 2003-27-1</p>	<p>A 55-yr-old Native American logger, working as a faller, was struck and killed by the tree he was falling. The tree struck a snag on the way down and the butt-end sprung back 12 ft into the faller's work zone, striking him. The faller was using a standard Humboldt face cut, but the back cut was too low, giving the butt an insufficient step to push off.</p>
<p><i>Logger in falling zone</i></p> <p>Forestry/Logging Logging</p> <p>September 5 Lane OR 2003-28-1</p>	<p>A 50-yr-old logger, working as a faller, was killed by a falling tree in the falling zone of a coworker who was unaware of his presence. The faller, with over 25 years of experience and part owner of the logging firm, told the coworker he was going to check the site further up the road. The coworker had fallen six trees before being signaled by another worker to the road where the first tree had fallen. The faller had returned and started bucking the first tree, and was struck by the branches of the second tree as it fell close by. The victim did not notify anyone when he returned. The second tree was located behind a ridge where the coworker could not see the road.</p>

Worker Fatalities – Contact

<p><i>Tree wedge</i></p> <p>Forestry/Logging Logging</p> <p>October 15 Jackson OR 2003-35-1</p>	<p>A 24-yr-old logger, helping an experienced faller, was killed by the kickback of the tree they were falling. The tree was a 65 ft pine, 23 in. diameter. The novice logger was responsible for hammering a wedge into the tree to make it fall uphill. The faller saw the tree was beginning to fall and yelled twice for the logger to get away. Busy driving the wedge, the victim moved too late. The butt of the tree rose over him and struck him.</p>
<p><i>Crane at fish pond</i></p> <p>Agriculture Transportation</p> <p>November 6 Linn OR 2003-39-1</p>	<p>A 66-yr-old worker operating a crane was killed when the crane toppled over while dredging a trout pond. The worker was a neighbor, experienced at operating heavy equipment. The rubber-tired boom crane was positioned on a slip of land between two ponds, angled about 30 degrees toward the pond being dredged, without outriggers. While pulling in a load from the middle of the pond, the crane became unstable and tipped. The operator was 9 ft off the ground in the cab. He was not wearing a personal restraint system, and either jumped or was thrown from the cab. The carriage crushed him when it fell.</p>
<p><i>Runaway tow truck</i></p> <p>Transportation Transportation</p> <p>November 20 Douglas OR 2003-59-1</p>	<p>A 69-yr-old owner/operator of a towing company, was killed while trying to stop his runaway tow truck. Two weeks earlier, the brake on the truck had failed at a service station, and the operator had to jump in and stop it. The unwitnessed fatal incident apparently repeated this event, with the operator trying to enter the cab of the tow truck while it was rolling downhill, outside an auto wrecking yard. The operator was dragged about 30 ft before striking a parked car. His rib cage was crushed between the door and cab of the tow truck.</p>
<p><i>Rock crusher</i></p> <p>Construction Construction</p> <p>November 23 Douglas OR 2003-40-1</p>	<p>A 45-yr-old construction worker was killed while attempting to unbind a rock crusher. The worker was co-owner of a general construction firm that occasionally crushed its own rock for building roads. The worker had been trained on the equipment on first use 4 years earlier. The portable, horizontal impactor crushes rock with a hammer mill rotating at 2400 rpm. The worker attempted to loosen a rock jam in the intake of the unit, using a 5 ft iron pry bar. The pry bar made contact with the rotating impactor and was thrown out with great force, striking the worker in the neck.</p>
<p><i>Forklift spill</i></p> <p>Manufacturing Production</p> <p>December 8 Josephine OR 2003-43-1</p>	<p>A 46-yr-old production worker was killed when a forklift he was riding on overturned. The worker was in a man-rated platform, elevated on the forks about 14 ft off the ground. The forklift operator moved in reverse to a new work location, and made a sudden turn, which caused the forklift to tip over onto its side. The worker remained in the cage up to the point of impact, when he struck his head on the pavement.</p>

Worker Fatalities – Exposure

Exposure to harmful substance/environment

<p><i>Landscape pond</i></p> <p>Admin./Support/ Waste/Remediation Building/Grounds Maintenance</p> <p>May 2 Washington OR 2003-8-1</p>	<p>A 23-yr-old male Hispanic laborer drowned after falling into a landscape pond at the base of a steep slope. Immediately before the incident, a wheelbarrow load of rocks was delivered to the landscape worker. The wheelbarrow was later found lying on its side, with the rocks strewn down the slope. A coworker on the slope above responded, and managed to grab the laborer's hand in the water, but was pulled in as well. The coworker could not relocate the victim. The pond slopes from 4 ft to 12 ft deep. The victim was unable to swim, and he disappeared quickly as his boots filled with water.</p>
<p><i>Chemical washer</i></p> <p>Admin./Support/ Waste/Remediation Construction</p> <p>June 10 Multnomah OR 2003-17-1</p>	<p>A 22-yr-old male worker died 23 days after cleaning a waste antifreeze storage tank with a high-pressure washer at a waste management plant. The worker was not wearing respiratory protection. Shortly after completing the daylong job, the worker complained of being short of breath, and was admitted to a hospital. Five days in the hospital included 3 days in the ICU, before being released. Follow-up 10 days later showed he was not improving, and he was readmitted to the hospital. The victim died in the hospital 4 days later due to hypoxia and respiratory failure. Hydrofluoric acid was the suspected agent.</p>
<p><i>Vessel lost</i></p> <p>Fishing Fishing</p> <p>August 29 Coos OR 2003-46-1</p>	<p>A 61-yr-old skipper of a 60 ft commercial fishing vessel is presumed dead, lost at sea. The skipper was fishing alone, last known position 60 nautical miles northwest of Coos Bay. A life ring was found off the coast of northern California several weeks later. The skipper's body has not been found.</p>
<p><i>Capsized net fishing</i></p> <p>Fishing Fishing</p> <p>September 16 Wasco OR 2003-51-1</p>	<p>A 71-yr-old Native American fisherman was drowned in the Columbia River when his boat capsized while he was checking his fishing nets. He was not wearing a life jacket.</p>
<p><i>Fishermen missing</i></p> <p>Fishing Fishing</p> <p>September 19 Multnomah OR 2003-57-2</p>	<p>Two male commercial fishermen, aged 34 and 18, were drowned in the Columbia river. The older man had 20 years of experience on the river. Neither of the fishermen were wearing lifejackets. The boat did not appear to be overloaded, and all the proper safety equipment was aboard.</p>

Worker Fatalities – Exposure

<p><i>Thermal spray</i></p> <p>Retail trade Sales & related</p> <p>October 1 Clackamas OR 2003-38-1</p>	<p>A 43-yr-old sales representative for a direct-sales firm died 4 days after daylong exposure to chemical byproducts during a thermal spraying demonstration indoors at a hydroelectric plant. The sales rep did not wear appropriate respiratory protection during the application. Two days later, he reported feeling ill, and died later in the day at home. Acute chemical pneumonia from metal exposure was the presumed cause of death.</p>
<p><i>Operator high voltage</i></p> <p>Construction Construction</p> <p>October 30 Multnomah OR 2003-36-1</p>	<p>A 34-yr-old operator of a truck-mounted augur was killed when the augur's 22 ft 7 in. tower came in contact with an 8,000-volt power line, 21 ft 8 in. off the ground. The operator was one of a three-man crew removing a line of guardrail posts. The workers were aware of two high-voltage lines, about 6 ft apart. Tree foliage made it difficult for the operator to see the lines, and moving the vehicle forward to the next post, he evidently mistook the far line for the near one. A loud cracking sound was heard when the augur grounded. The operator jumped from the vehicle, but the high voltage arced through space and through his body to ground.</p>
<p><i>Worker high voltage</i></p> <p>Construction Construction</p> <p>November 3 Umatilla OR 2003-37-1</p>	<p>A 20-yr-old construction worker was electrocuted while replacing a guardrail and posts on a highway construction project. A truck-mounted tower, adapted to hold the guardrail in position, came in contact with an 8,000-volt power line as the worker was removing bolts on a rail about 24 ft away. The crew was aware of the power lines, but the tower operator misjudged the narrower clearance in the new work location. Receiving an electric shock, the worker walked to a lower road to lie down, and died shortly after.</p>
<p><i>Helium high pressure</i></p> <p>Recreation Personal Services</p> <p>November 27 Jackson OR 2003-41-1</p>	<p>A 21-yr-old attendant at an ice rink died after inhaling helium at work to change his voice. After inhaling an unknown amount of helium from a tank, the attendant walked over and spoke with coworkers for less than a minute before collapsing. He started to convulse and tremble. He was pronounced dead 1 hour later, due to a massive air embolism caused by the high-pressure gas.</p>
<p><i>Crab boat overboard</i></p> <p>Fishing Fishing</p> <p>December 12 Lincoln OR 2003-44-1</p>	<p>A 45-yr-old crewman drowned when he fell from a crab boat 1½ miles offshore. The U.S. Coast Guard found the crewman, and reported later that the victim "simply fell off the boat."</p>

Worker Fatalities – Exposure

<i>Beach rescue</i>	A 51-yr-old police officer and volunteer firefighter was killed while participating in a human chain to rescue a 13-yr-old boy swept out from the beach by a large wave and undertow. The surf was estimated to be 18 to 20 feet high. In shallow water, the officer was the anchor on a human chain with at least three others. Struck by a sneaker wave, the officer was knocked off his feet and swept into the surf by the undertow. The youth was eventually rescued by a lowered basket from a rescue helicopter.
Public Administration Protective Services	
December 22 Coos OR 2003-45-1	

Worker Fatalities – Falls

Falls

<i>Skylight</i> Construction Construction January 23 Multnomah OR 2003-01-1	A 19-yr-old roofer's helper died when he fell through a skylight to a concrete floor 35 ft below. The worker was assisting his father, a roofing contractor, repair water leaks on the flat roof of a commercial warehouse. Clearing up for the day, the victim was backing up with a torch hose when he stepped or tripped into the skylight. The acrylic plastic dome shattered under his weight.
<i>Landscaper ladder</i> Admin./Support/ Waste/Remediation Building/Grounds Maintenance February 2 Yamhill OR 2003-48-1	A 44-yr-old Hispanic landscape laborer was killed when he fell about 15 ft off a ladder and struck the back of his head on asphalt. The ladder went one way, and the laborer the other, a witness reported. The victim reportedly drank alcohol the night before and did not get to sleep until 6 a.m.
<i>Elevator shaft</i> Construction Construction May 16 Washington OR 2003-10-1	A 41-yr-old construction worker fell to his death down an elevator shaft in a house under construction. The worker was on the second floor of a three-level house, handing up materials to coworkers nailing joists on the floor above. The crew was called in 4 days before to finish framing the house. They removed the protective cover to the elevator shaft to frame the walls, and replaced it with an unsecured board. On the morning of the incident, the shaft was open to allow access to the floor below. The victim apparently wandered too close to the opening at the end of the newly framed hallway.
<i>Roof repair</i> Rental/Leasing Install/Maintain/Repair August 23 Coos OR 2003-24-1	A 47-yr-old worker was killed when he fell 13 ft from a roof he was repairing for a homeowner. The worker had just finished shingling the left side of the dormer on a dry, warm afternoon, and was moving into position to begin shingling the right side. He was not tied off or using fall protection. The victim was not experiencing any problems, according to the homeowner, who witnessed the victim suddenly fall head-first toward the ground.
<i>Fall from horse</i> Agriculture Farm/Ranch September 5 Baker OR 2003-30-1	A 52-yr-old rancher was killed when he was thrown from a horse he was training. While attempting to go down a steep embankment, the young 2-yr-old horse flipped off the harness and bolted to the side. The rancher fell off the horse into a gully of large rocks and hit the side of his head, dislocating his neck.

Worker Fatalities – Falls

<i>Tree climber</i>	A 36-yr-old forester, working with a team to girdle and top selected trees to create wildlife trees in a wilderness area, died when he fell 100 ft from a fir tree. The forester fell after he entered the tree canopy. He wore a climbing belt, but was “free climbing” without tie off ropes.
Forestry/Logging	
Install/Maintain/Repair	

December 1
Clackamas
OR 2003-42-1

Worker Fatalities – Violence

Violence and assault

<i>Taxi driver</i>	A 33-yr-old male of Ukrainian descent, working as a taxi driver, was robbed and killed by a passenger. The driver picked up a fare from a jail and took the passenger to his place of work, where he retrieved something from his work locker. Shortly after the passenger's return, the driver pushed the panic alarm in his car. Without a global positioning (GPS) system, there was no way to know the taxi's location. The driver's body was discovered about 12 hrs later following an anonymous call.
Transportation Transportation	
February 17 Multnomah OR 2003-02-1	
<i>Suicide with handgun</i>	A 38-yr-old sales representative committed suicide at his place of work with a handgun.
Wholesale trade Sales & related	
March 30 Josephine OR 2003-25-1	
<i>Random shooting</i>	A 20-yr-old female animal caretaker at a horse-training stable was fatally shot while walking across the parking lot where she worked. The suspected shooter reportedly had mental health issues and had been hallucinating before the shooting.
Agriculture Farm/Ranch	
April 6 Clackamas OR 2003-04-1	

Worker Fatalities – Fires & Explosions

Fires & Explosions

<i>Welding cage</i> Manufacturing Production February 18 Multnomah OR 2003-22-1	A 48-yr-old female shipyard welder died 62 days after being caught in a fireball in the cage of a high lift, while welding the stern of a barge. Fire investigators theorize that a small pinhead leak developed in the highly pressurized hydraulic lines of the high lift, and this escaping oil was atomized in the atmosphere until ignited by the sparks of the wire-fed welder. The fire spread rapidly and engulfed the worker's platform. All hydraulic lines in the platform were consumed, and escaping oil evidently fed the blaze until coworkers turned off the source. The victim sustained 80% full thickness burns and thermal inhalation injuries. She expired from complications secondary to sepsis two months later.
<i>Cannon</i> Educational services Personal Services August 5 Tillamook OR 2003-20-1	A 16-yr-old camp counselor was killed when a ceremonial cannon he was firing burst into pieces. The cannon had been used regularly at flag-lowering ceremonies for 3 years. On the evening of the incident, the counselor set up the cannon as instructed and attempted to fire it during the flag ceremony, but the wind blew out the touchstick twice. After the ceremony, the counselor and a coworker tried again to fire the cannon. Additional black powder was added to the breech hole, and this time the powder ignited. The breech of the cannon burst into pieces, and a large fragment struck the victim in the forehead. He died 4 days later in a hospital. The coworker was uninjured.
<i>Wood-dust explosion</i> Manufacturing Production August 11 Linn OR 2003-21-1	A 50-yr-old production worker died 8 days after being severely burned in a wood-dust explosion in a wood-flour mill. A fuse replaced 4 days earlier with electrician's tape was shown to the worker when he came on shift, and he took it out to inspect it. The fuse evidently failed to make secure contact when it was reinserted. The worker was alone, going through the routine start-up sequence of the plant. Flipping the motor switch with the faulty fuse sparked accumulated wood dust in the fuse box, which exploded and produced dust clouds from other surfaces, which also exploded. Suffering second- and third-degree burns on his upper body and arms, the victim was transported to a local hospital, where he later died.

Worker Fatalities – Overexertion

Overexertion

Twisted ankle

Manufacturing
Production

March 15
Multnomah
OR 2003-60-1

A 42-yr-old production worker at a chainsaw manufacturer died about 7 months after twisting his ankle. The worker did not consider the injury serious. He later developed deep-vein thrombosis and died of a blood clot, described as a “bilateral pulmonary embolism.”

Contact Information

The Center for Research on Occupational and Environmental Toxicology at Oregon Health & Science University performs OR-FACE investigations through a cooperative agreement with the National Institute for Occupational Safety and Health, Division of Safety Research. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

Oregon Fatality Assessment and Control Evaluation (OR-FACE)

Center for Research on Occupational and Environmental Toxicology (CROET)

Oregon Health & Science University (OHSU)

3181 SW Sam Jackson Park Rd, L606

Portland, OR 97239-3098

Phone (503) 494-2502

Email: orface@ohsu.edu

Web site: <http://www.ohsu.edu/croet/face/>

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Population Data Sources

U.S. CENSUS

<http://www.census.gov> (American Factfinder, Data Sets, Summary File 3)

BUREAU OF LABOR STATISTICS

<http://bls.gov/ces/home.htm>

LAUS – LOCAL AREA UNEMPLOYMENT STATISTICS

<http://www.bls.gov/lau/>

OLMIS – OREGON LABOR MARKET INFORMATION SYSTEM

http://olmis.emp.state.or.us/olmisj/CES?x=1&y=1&p_action=

Oregon Fatality Assessment & Control Evaluation
Center for Research on Occupational
and Environmental Toxicology
Mailcode L606
3181 SW Sam Jackson Park Road
Portland OR 97239-3098

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Science & Engineering; OHSU Hospital; Doernbecher Children's Hospital; numerous
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