

An aerial photograph of a forest, showing a dirt path or road winding through the trees. Two workers are visible in the upper middle section of the image, one appearing to be working on the ground. The entire image has a blue tint.

# **Occupational Fatalities in Oregon Annual Report 2013**

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

## FACE Definitions

The Oregon Fatality Assessment and Control Evaluation program investigates 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, 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 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 (March 11, 2004): <http://stats.bls.gov/iif/oshcdef.htm>

### Acronyms

BLS	U.S. Bureau of Labor Statistics
CDC	Centers for Disease Control and Prevention
CFOI	U.S. Census of Fatal Occupational Injuries
NAICS	North American Industry Classification System
NTSB	National Transportation Safety Board
NVDRS	National Violent Death Reporting System
OIICS	Occupational Injury and Illness Classification System
Oregon OSHA	Oregon Occupational Safety and Health Division
SOC	Standard Occupational Classification



# Annual Report 2013

## Oregon Fatality Assessment and Control Evaluation

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*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.*

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## Oregon FACE Program

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Oregon Institute of  
Occupational Health Sciences

Oregon Health & Science University

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- Ryan Olson PhD
- Illa Gilbert-Jones MS, CIH, CSP
- Annie Cannon
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*OR-FACE is supported by the National Institute for Occupational Safety and Health (grant #2U60OH008472) through the Oregon Health Authority.*

### Principal Investigators:

*Reporting Year - Jae Douglas, PhD, MSW  
Publication Year - Curtis Cude and Ryan Olson, PhD*

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Cover photograph by W. Kent Anger

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# Report Summary

## REPORT HIGHLIGHTS

- OR-FACE conducts surveillance, investigation, assessment, and outreach related to traumatic occupational fatalities in Oregon (see pp. 5-6 for descriptions of activities).
- OR-FACE published two investigation reports, Truck driver crushed between semi-trailer and loading dock, and Millwright fatality involving a hydraulic accumulator.
- Characteristics of fatal events and the workers involved are quantified in charts (see pp. 9-14). OR-FACE began collecting data in 2003. Some charts in this report include an inset of OR-FACE data collected from 2003 through 2013.
- Abstracts provide a brief description of each incident and contributing factors (see pp. 15-26).
- Contact information for OR-FACE to access resources and feedback (see back cover).

## INTRODUCTION

In 2013, Oregon Fatality Assessment and Control Evaluation recorded 43 fatal occupational incidents and worker deaths. The number represents a rate of 2.4 fatalities per 100,000 employed workers in the civilian labor force in Oregon. The national worker fatality rate in 2013 was 3.3 per 100,000 full-time equivalent workers.

The following notable trends occurred in 2013.

- The total number of fatalities was lower compared to the last three years. In 2010, 2011, and 2012, there were 51, 59, and 47 worker deaths, respectively.
- Transportation for both industry and type of event had the highest number of fatalities in 2013. OR-FACE data accumulated from 2003 through 2013 revealed that the transportation industry had the most number of fatalities.
- The highest number (184) of fatal events from 2003-2013 were as a result of motor vehicle incidents. In 2013 there were eleven.

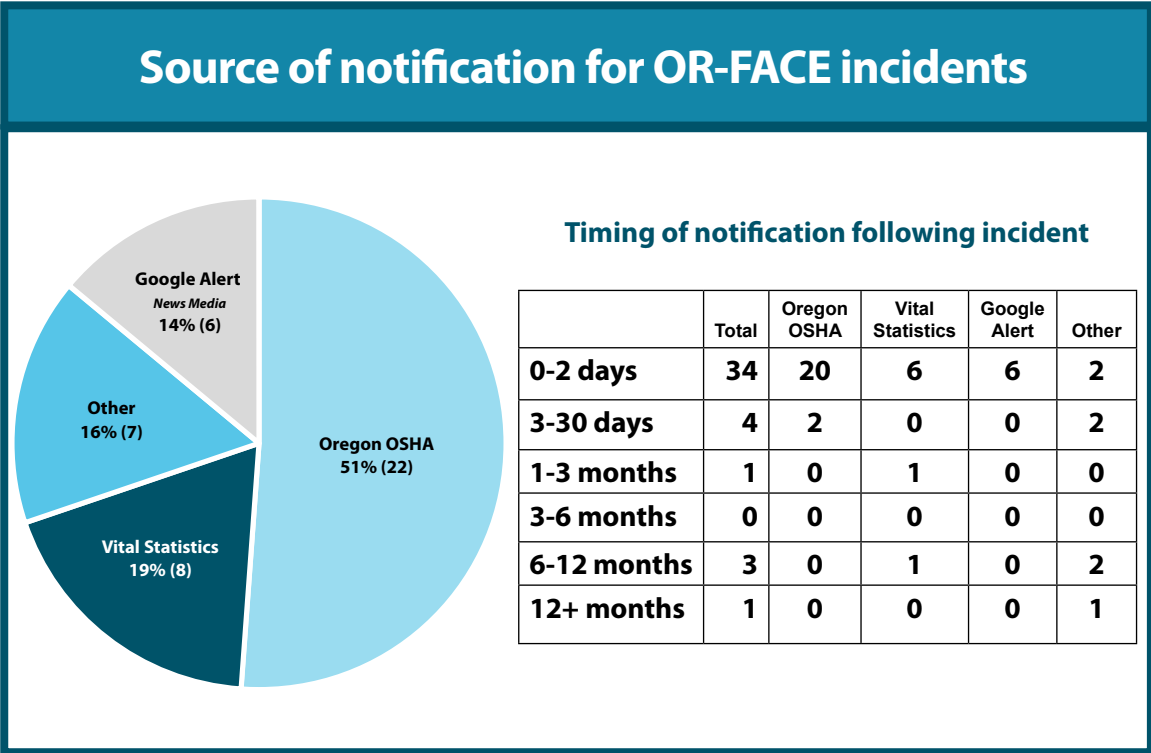
# Core Activities

## SURVEILLANCE

The OR-FACE surveillance system utilizes Oregon OSHA fatality notifications, quarterly reports of death certificates marked “at work” from the Oregon Public Health Division’s Vital Statistics, a daily scan of a programmed Google keyword alert and Oregon Emergency Response System (OERS) reports. For 2013, earliest first notification for work-related fatalities originated mostly from Oregon OSHA, news media, and vital statistics (see below).

## ASSESSMENT

When fatalities are identified as FACE cases, sufficient data and information are collected about each incident for analyses and to produce case abstracts. Assessment data sources for each case include Oregon OSHA investigation reports, Medical Examiner reports, police investigations, news reports, Workers’ Compensation records, and occasionally other records such as business profiles, hospital or emergency response records, or investigation reports from other sources. OR-FACE analyzes incident data to identify and summarize trends. Incidents are coded and analyzed by industry (NAICS), occupation (SOC), and event (OIICS), and by demographic and other variables, such as the specific source or setting of the injury. Incident abstracts are created to illuminate each fatality with the aim of preventing similar fatalities in the future.



## Core Activities

### INVESTIGATION

In-depth investigations are conducted for selected cases by OR-FACE staff and contractors with relevant industry-specific expertise. Contractors work in conjunction with OR-FACE staff to produce investigation reports, which are reviewed by a board of professional safety experts prior to publication. Investigation reports seek to draw urgent attention to safety issues present in the fatality cases. Three investigation reports were published in 2013: OR 2010-6-1, Truck driver crushed between semi-trailer and loading dock, OR-2011-16-1, Millwright fatality involving a hydraulic accumulator, and OR 2011-50-1, and Timber faller killed while working under a hung tree limb (see page 8) .

The National Safety Council highlighted the OR-FACE investigation report Mechanic killed



by excavator bucket during maintenance in the June 2013 issue of Safety + Health.

In July 2013, OR-FACE and Oregon OSHA signed an official letter of agreement to facilitate information sharing to enhance the quality and quantity of FACE fatality investigations and investigation reports in the future, as well as to work together to produce and disseminate comprehensive outreach and educational materials.

### OUTREACH

OR-FACE outreach efforts include publications and their distributions, safety events and initiatives, posters, and presentations. Published OR-FACE safety materials are distributed online, directly by mail, and through collaboration with partner organizations. In 2013 OR-FACE distributed 170 *Fallers Logging Safety* booklets to saw shops, schools, and equipment dealers. One hundred *Young Workers Stay Alive on the Job!* brochures were distributed to a local high school.

The final phase of the tool box talk guide initiative to determine effectiveness of the guides was completed in 2013. A collection of construction tool box talks were finalized and tested in the field. A poster of the initiative was presented at the Oregon Governors' Occupational Safety & Health Conference.

OR-FACE attended one outreach meeting with the Oregon OSHA Bend office. The purpose of the meeting was to both build a stronger collaboration with OSHA investigators and to nominate past OSHA cases for future OR-FACE investigations.

The June 2013 monthly newsletter of the American Society of Safety Engineers Columbia-Willamette Chapter, Safety Emphasis, featured OR-FACE Annual Report 2010. The National Safety Council highlighted the OR-FACE investigation report, "Mechanic killed by excavator bucket during maintenance."

The September 2013 issue of Oregon Truck Advisor published the OR-FACE fatality alert: Parked Vehicles Kill.

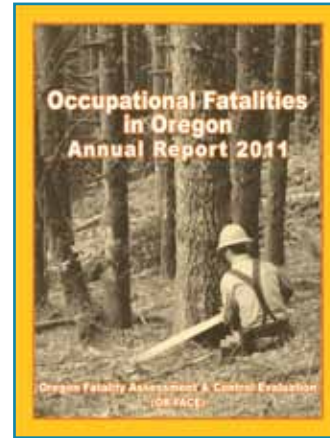
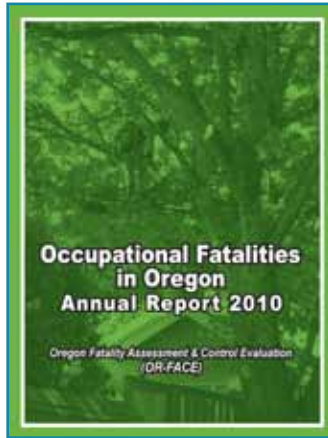
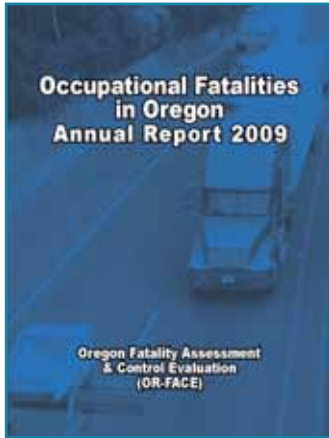
Oregon in the Workplace blog published, "Resurfacing Bathtub Causes Death in Oregon" on February 12, 2013 and "OR-FACE Releases New Resources," on September 28, 2013.

Online interactive Fatality Maps were published December 2013.

# 2013 Publications

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 are protected from disclosure under Oregon law (ORS 432.060).

**Annual Reports** - The annual reports for the years 2009, 2010 and 2011 were published in 2013. These annual reports include analysis of the incidents with charts for industry, event, age, gender, time, month and more. These reports also include an abstract of each case.



## Toolbox Talk Guides

1. Load of lumber shifts and falls on construction worker
2. Roofing material lands on worker standing on ladder
3. Home construction worker falls down elevator shaft
4. Novice drywall installer dies in 7-foot fall from scaffold

FATAL HAZARD

FATAL HAZARD

FATAL HAZARD

FATAL HAZARD

- Install guardrails, covers, or nets to block openings
- Wear fall arrest system when required
- Know location in case of emergency

- Lock wheels before mounting platform
- Consider guardrails for added protection
- Teach fall protection to young workers

## Hazard Alert

**OR-FACE**  
**Snag Hazard Alert**

From 2010 to 2013, 10 Oregon workers in the Logging and Forestry industries died after being struck by trees. Hung limbs and snags in trees are a recurring contributing factor to occupational fatalities among tree fallers in Oregon.

**Please observe the following safety tips:**

- Scan for hung or snagged trees and limbs in your own and others' cutting strips and communicate with each other about these hazards.
- When faced with a hazardous situation, stop work and seek assistance from a supervisor, a cutting partner, or a more experienced worker.
- If a snag or hung-up is identified, after seeking assistance, work with your partner to identify the best method for abating the hanging limb, tree or snag (OS-COPE standards working under a lodged tree or the cutting of a tree where another tree is lodged in it).
- Employees should discuss how workers can identify and understand how to safely respond to snagged or hung trees and other hazardous logging conditions.

**Fatal Stories**

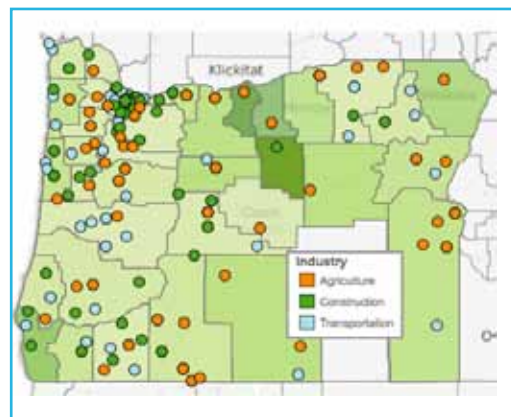
**Case 1:** A 28-year-old self-employed tree caller was struck after he was about to cut through a steep and brush-covered area. The victim had cut a small section of growth tree, but it had hung up in another tree as he was about to cut through it. The tree was leaning to the right and when the lodged tree broke the worker fell on his back.

**Case 2:** A 41-year-old logger was killed after he was struck by a hanging tree. The victim was working on a job at a tree plantation in Oregon. He was cutting a tree and another tree was leaning over him. He was about to cut through the tree when it broke and fell on top of him. The victim had 23 years of logging experience.

**Case 3:** A 48-year-old tree faller was struck after he was cutting a tree in a steep hillside. The victim was working on an independent contractor basis. He had just felled a large tree in a hollow, which appeared to have been cut by a tree storm. The victim was on the ground when the tree fell and struck him. The victim was killed by the impact of the tree.

Oregon Fatality Assessment and Control Evaluation  
2013-04-22 | www.oregonface.com

## Interactive fatality maps





# 2013 Publications

## Investigations

**OREGON FATALITY ASSESSMENT AND CONTROL EVALUATION**  
www.ohsu.edu/orface

Center for Research on Occupational and Environmental Toxicology

**Fatality Investigation Report** OR 2010-6-1  
**Truck driver crushed between semi-trailer and loading dock**

**SUMMARY**

On February 9, 2010, a 62-year-old truck driver was crushed and killed between a 53-foot semi-trailer and loading dock. After the delivery, he realized a tie-down strap was inside the warehouse. He pulled the truck a short distance away from the loading dock and returned to get the strap. Standing between the semi-trailer and loading dock, he hung on the roll-up door. The receiving company employee opened it, handed him the strap, noticed the semi-trailer moving, and yelled a warning, but the driver was pinned. The truck was pulled forward off of the victim by the warehouse employee. The ramp had a 2 degree slope. The wheels of the truck were not chocked, and the warehouse employee reported that the victim left the truck running and in neutral with none of the brakes set. However, the Fire Department reported that "a trailer brake" was set, but not the tractor parking brake. The Fire Department also moved the truck, chocking the wheels to establish a safe work area. There were no mechanical problems found on the tractor or trailer during the post-incident inspection. The brake systems were working properly. Multiple factors may have allowed the truck/trailer movement. Based on interviews with experienced and with trucking experts, it is likely that the parking brakes were not set, allowing the truck and trailer to move and crush the victim. The slide axle of the trailer was also unchoked, which could have allowed the trailer to move on the rail over the axle as the truck rolled backwards.

**RECOMMENDATIONS**

- Fully engage tractor and trailer parking brakes before leaving the cab.
- Use wheel chocks to secure trailers and tractors against inadvertent movement, especially when parked on a slope.

Keywords: Trucking, Trailer (NAICS=492110)  
Publication Date: March, 2013  
Oregon FACE Program OR 2010-6-1  
Page 1  
This report is public information and free to copy.

*OR 2010-6-1, Truck driver crushed between semi-trailer and loading dock. A truck driver pulled his truck a short distance away from the loading dock and returned to retrieve a tie-down strap. The trailer wheels were not chocked and the truck was in neutral. While he was standing between the semi-trailer and loading dock, the trailer rolled down the ramp slope and the driver was crushed and killed between a 53-foot semi trailer and loading dock.*

*OR 2011-50-1, Timber faller killed while working under a hung tree-limb. A 41-year-old Hispanic male was killed while working as a timber faller. The victim, working as a lone faller, was attempting to fell a tree that had an alder limb hung up in it. Witness accounts state that they had observed the hung alder limb in the victim's cutting strip about two hours prior to the incident. The victim was found underneath the alder limb and was pronounced dead at the scene.*

**OREGON FATALITY ASSESSMENT AND CONTROL EVALUATION**  
www.ohsu.edu/orface

Center for Research on Occupational and Environmental Toxicology

**Fatality Investigation Report** OR 2011-50-1  
**Timber faller killed while working under a hung tree limb**

**SUMMARY**

On December 20, 2011, a 41-year-old Hispanic male was killed while working as a timber faller. The victim had been working at about 10:00 am on Monday. The victim was cutting a tree limb that was hung up in it. The victim was found underneath the hung alder limb. The victim was pronounced dead at the scene. The victim was found underneath the hung alder limb. The victim was pronounced dead at the scene.

**RECOMMENDATIONS**

- Workers should use the being or engaged lines and be sure to be sure to use safety cutting strips and communication with each other about these hazards.
- When faced with a hazardous situation, workers should stop work and seek assistance from a supervisor, a cutting partner, or a more experienced worker.
- If a snag or hanging limb is identified, after working conditions, workers can work with their partners to see whether adjacent trees in brush above the hazardous snag limb or to upright use of the being trees to eliminate the hazard.
- Employers should ensure that workers are trained and understood how to safely respond to engaged or being limbs and other hazardous hanging conditions.

Keywords: General Industry, Pressurized Machinery (NAICS=321113)  
Publication Date: November, 2013  
Oregon FACE Program OR 2011-50-1  
Page 1  
This report is public information and free to copy.

**OREGON FATALITY ASSESSMENT AND CONTROL EVALUATION**  
www.ohsu.edu/orface

Center for Research on Occupational and Environmental Toxicology

**Fatality Investigation Report** OR 2011-16-1  
**Millwright fatality involving a hydraulic accumulator**

**SUMMARY**

A 61-year-old senior millwright with over 32 years of experience was killed, and 2 other millwrights were injured, while trying to disassemble a hydraulic accumulator to rebuild it. The victim had previously rebuilt at least one other accumulator salvaged from another part of the mill. He was viewed by everyone, including managers, in the repair on this task. Warning labels on the accumulator and in the rebuild kit instructions stated that all gas pressure must be released prior to disassembly. However, this step was skipped in the disassembly process and pressurized nitrogen gas remained in the accumulator. While the victim was slowly removing an 8-inch diameter cap from the end of the accumulator, the cap violently exploded off the cylinder and hit the victim in the abdomen and pelvis. The flying cap killed the victim. His co-workers were injured by the cap and related debris.

**RECOMMENDATIONS**

- Employers should ensure employees follow manufacturer's recommendations and confirm all pressure is released prior to performing any maintenance work on pressurized systems and components (in this case both hydraulic and gas).
- Install a "bump valve" in hydraulic systems to ensure hydraulic energy is released from the system when the equipment is shut down.
- Employers should ensure that all employees are trained to recognize the potential hazard of stored energy and how to eliminate or control it.
- Employers should be empowered to stop work and re-evaluate a situation whenever potentially hazardous or unusual methods are being used to accomplish a task.
- Manufacturers or employers should consider altering the placement of warning labels, or applying additional labels or seals, on the cap area of accumulators to ensure they remain visible while removing the caps.

Keywords: General Industry, Pressurized Machinery (NAICS=321113)  
Publication Date: November, 2013  
Oregon FACE Program OR 2011-16-1  
Page 1  
This report is public information and free to copy.

*OR 2011-16-1, Millwright fatality involving a hydraulic accumulator. A senior millwright was killed and 2 other millwrights were injured while trying to disassemble a hydraulic accumulator to rebuild it. Pressurized nitrogen gas was not released prior to the disassembly. While the millwright was slowly removing an 8-inch diameter cap from the end of the accumulator, the cap violently exploded off the cylinder and hit the victim in the abdomen and pelvis.*

## Scientific Publication in Accident Analysis & Prevention

*"Elevated occupational transportation fatalities among older workers in Oregon: An empirical investigation"*

Accident Analysis and Prevention 53 (2013) 28–38

Contents lists available at ScienceDirect

**Accident Analysis and Prevention**

journal homepage: [www.elsevier.com/locate/aap](http://www.elsevier.com/locate/aap)

**Elevated occupational transportation fatalities among older workers in Oregon: An empirical investigation**

Jaime K. Walters<sup>a,\*</sup>, Ryan Olson<sup>b</sup>, Justin Karr<sup>b,1</sup>, Erika Zoller<sup>b</sup>, Daniel Cain<sup>a</sup>, Jae P. Douglas<sup>a</sup>

<sup>a</sup> Oregon Health Authority, Public Health Division, 800 NE Oregon Street, Suite 640, Portland, OR 97232, United States

Find published presentations, safety booklets, reports, and other resources at the OR-FACE website (<http://www.ohsu.edu/xd/research/centers-institutes/oregon-institute-occupational-health-sciences/outreach/or-face/>); or QR code . New reports are published regularly.



Oregon Fatality Assessment and Control Evaluation (OR-FACE)

OR-FACE is a WEBB approved program designed to prevent occupational fatalities through surveillance, targeted investigation, assessment, and outreach associated with hazardous workplace deaths in Oregon. See [www.ohsu.edu/orface](http://www.ohsu.edu/orface)

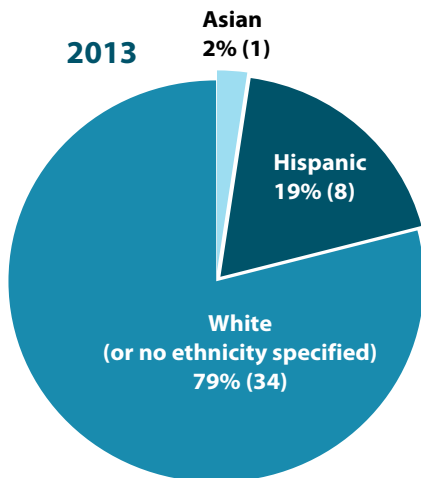


## Charts

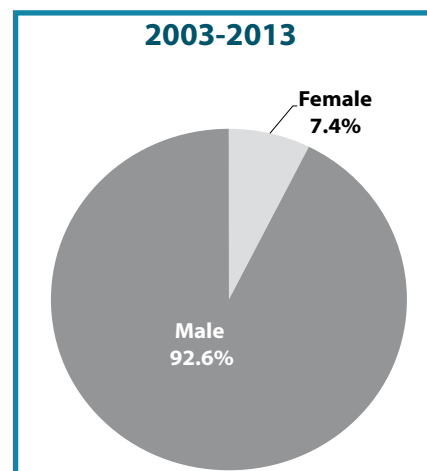
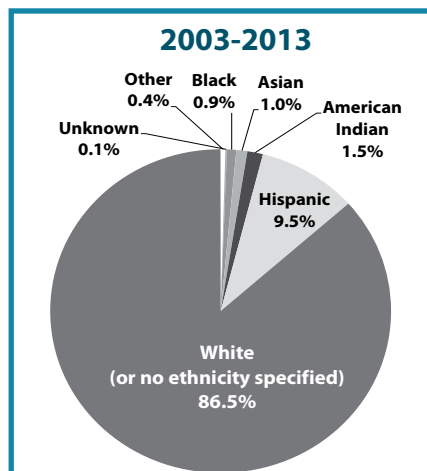
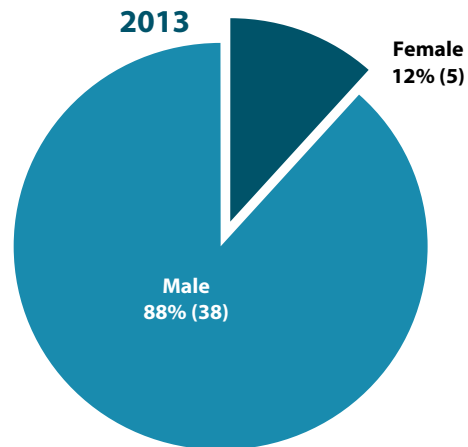
In charts and abstracts, OR-FACE highlights risk factors and patterns in fatalities. For these analyses a few of the major two-digit classification codes are split into sub codes. For industry (NAICS), Agriculture/Fishing/Forestry/Hunting (code 11) is separated into sub codes: forestry/logging (code 113), fishing (code 114) and agriculture (codes 111-113). For occupation (SOC), Farming/Fishing/Forestry (code 45) is split into sub codes: agriculture (code 45-2000), fishing (code 45-3000), forestry (code 45-4010) and logging (code 45-4020). For event (OICS), Transportation is divided into types: Motor Vehicles, Mobile Machinery, Air, and Water.

Relative to the past 9 years, in 2013 incidents by race/ethnicity and gender showed slight changes. Hispanics continue to be the second largest ethnic group to be involved in fatal cases. From years 2003 through 2013, there were 64 incidents involving Hispanics. Forty-one percent of these fatalities were as a result of contact with objects and equipment.

**Worker Fatalities by Race/Ethnicity**



**Worker Fatalities by Gender**



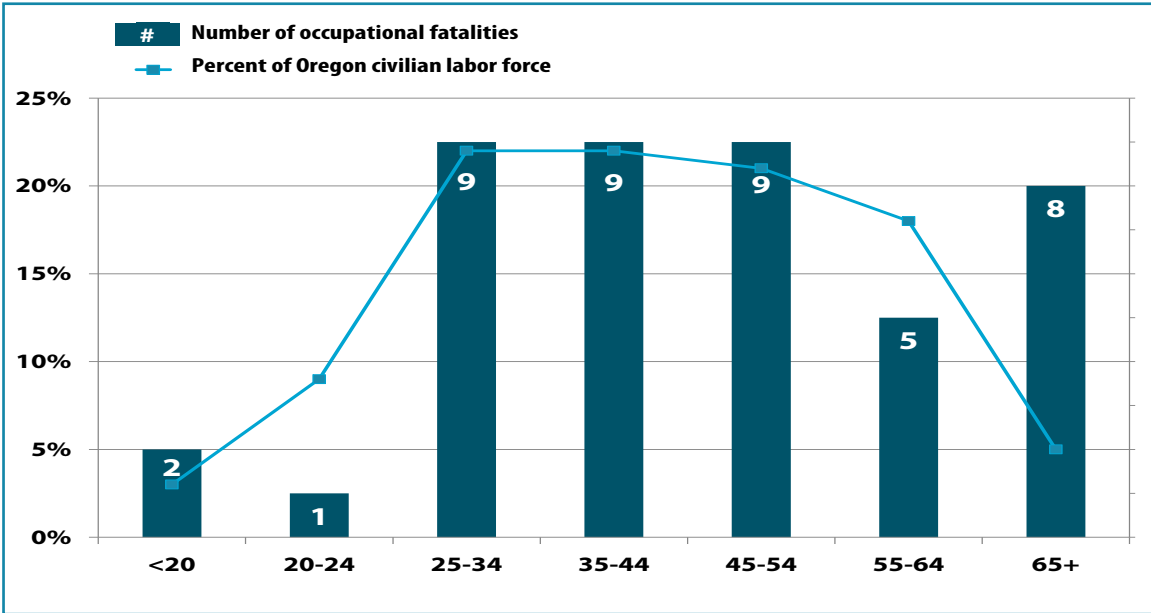
# Charts

There were four OR-FACE cases where death occurred three or more days after the incident. Two of these delayed death cases were from injuries sustained from falls. One of these cases occurred 25 years after a work-related injury. Because of the difficulty in obtaining information on this case we were unable to confirm the event that resulted in the incident.

Delayed Deaths			
Worker Fatalities with Delayed Death from Date of Injury (over 2 days), 2013			
EVENT	CAUSE OF DEATH	INTERVAL	FACE ID
Fall	Blunt force head trauma with basilar skull fracture	11 days	OR 2013-02-1
Fall	Blunt force head and abdominal trauma	14 days	OR 2013-25-1
Transportation (motor vehicle)	Complications of multiple blunt trauma	296 days	OR 2013-30-1
Unknown	Sepsis from decubitus ulcer due to paraplegia	25 years	OR 2013-41-1

The 55 and older age group accounted for 30% of all fatalities in 2013. From 2003 through 2013, the annual percentage of fatalities for this age group ranged from 18% to a high of 47% in 2011. Since 2011 the 65+ age group was approximately 5% of the Oregon civilian labor force although it accounted for 17-19% of OR-FACE cases.

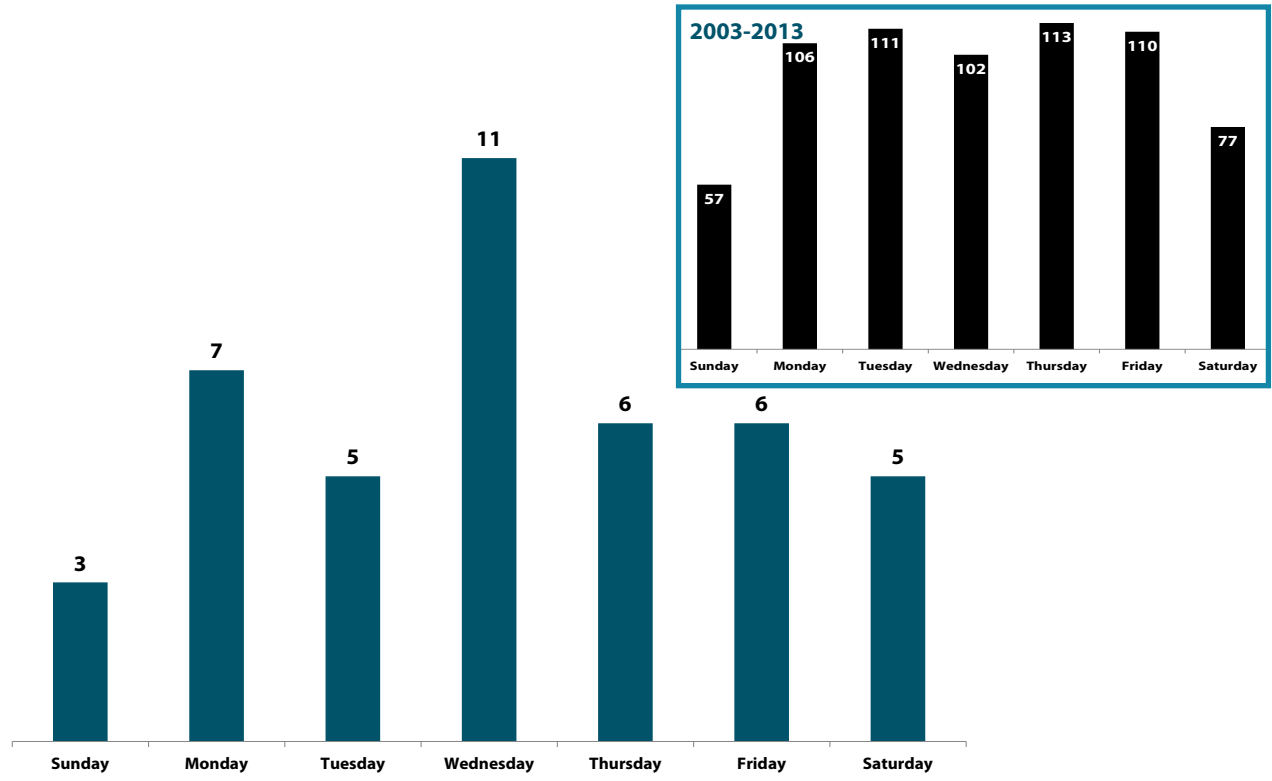
**Occupational Fatalities in Oregon by Age  
Compared to Oregon Age Distribution of Civilian Labor Force, 2013**



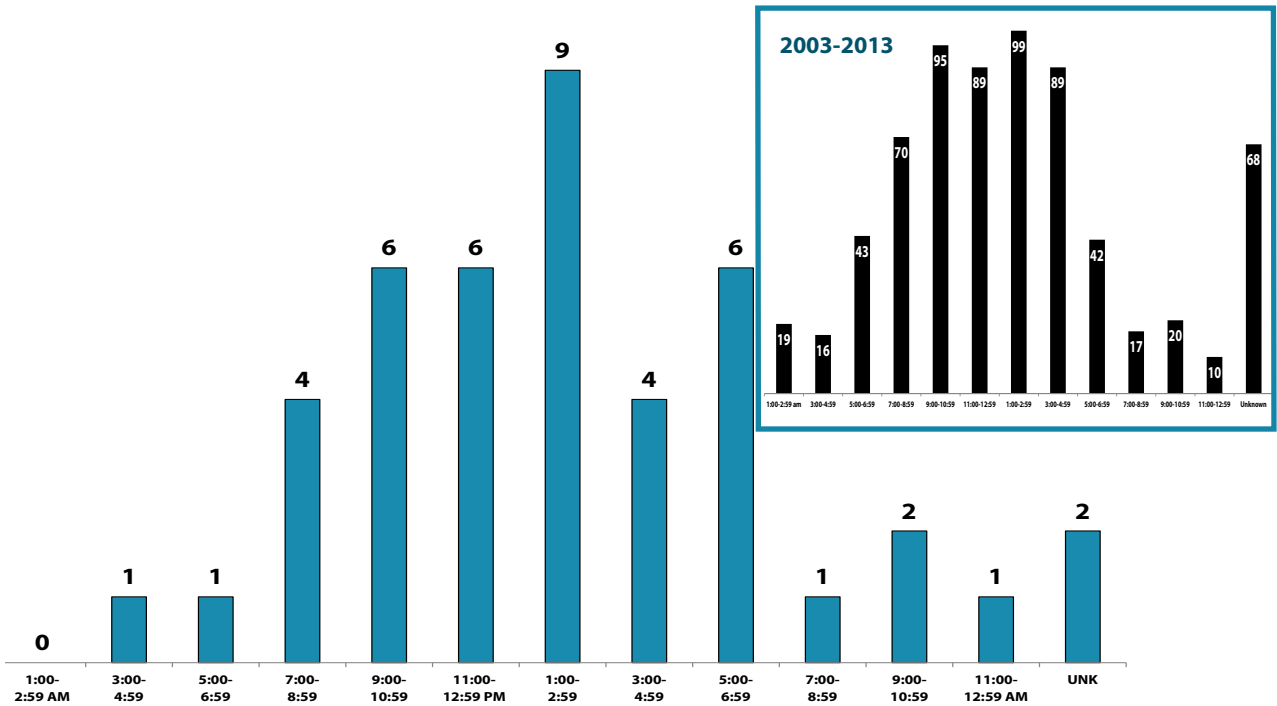
Source of labor force: BLS <http://www.bls.gov/laui/table14full13.pdf> p. 61-2. RETRIEVED: JUNE 2015. Source of fatality counts: OR-FACE

# Charts

**Worker Fatal Incidents and Total Fatalities by Day of Week, 2013**



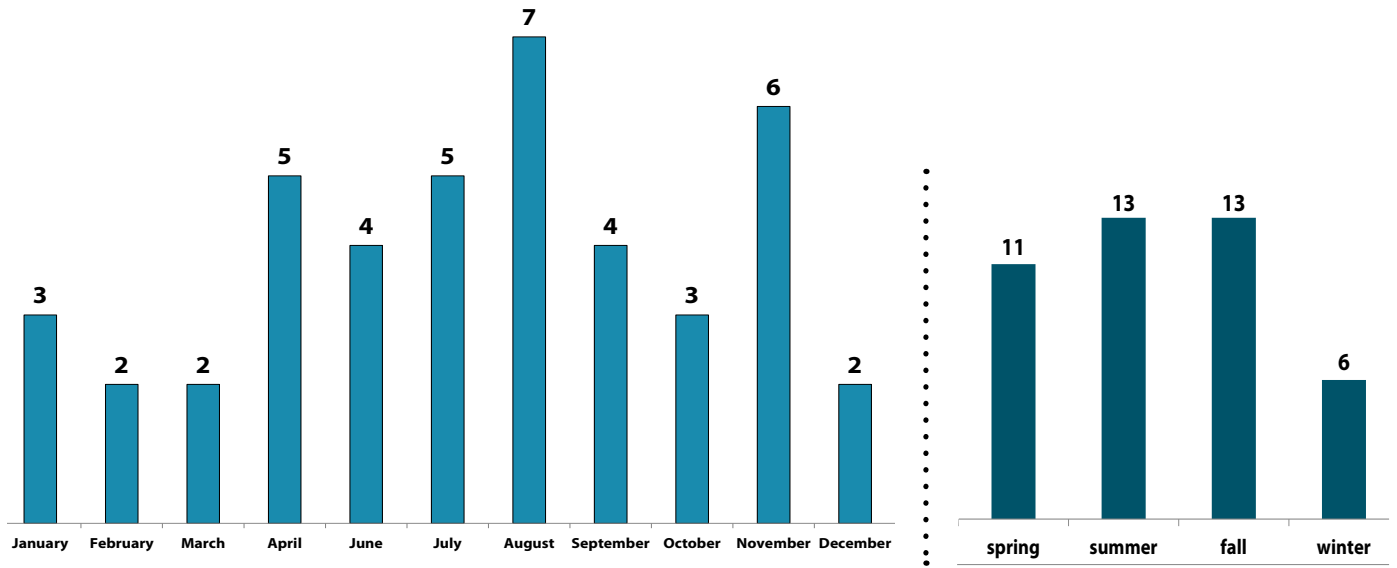
**Worker Fatal Incidents and Total Fatalities by Time of Incident, 2013**



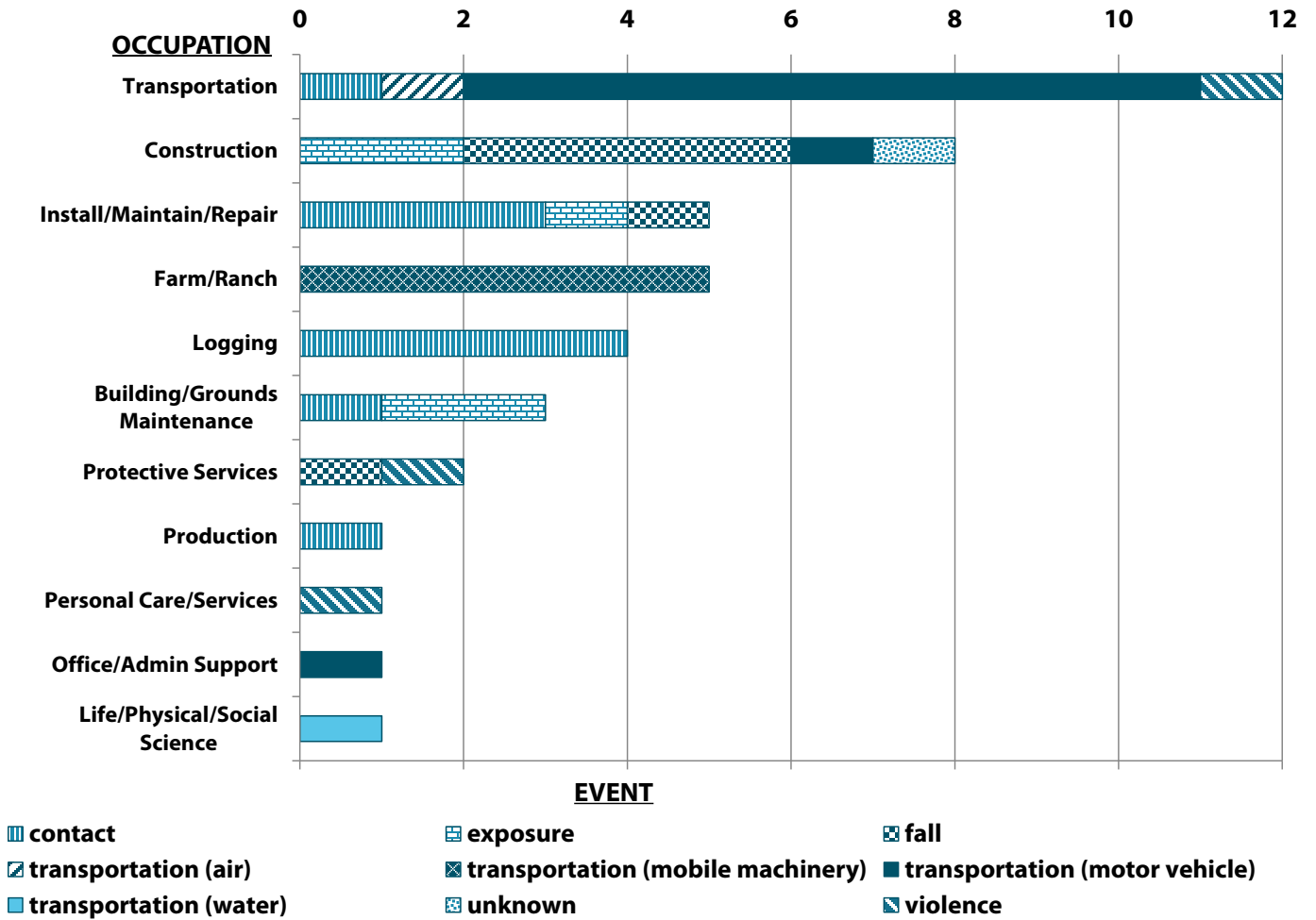


# Charts

**Worker Fatal Incidents and Total Fatalities by Month and Season, 2013**

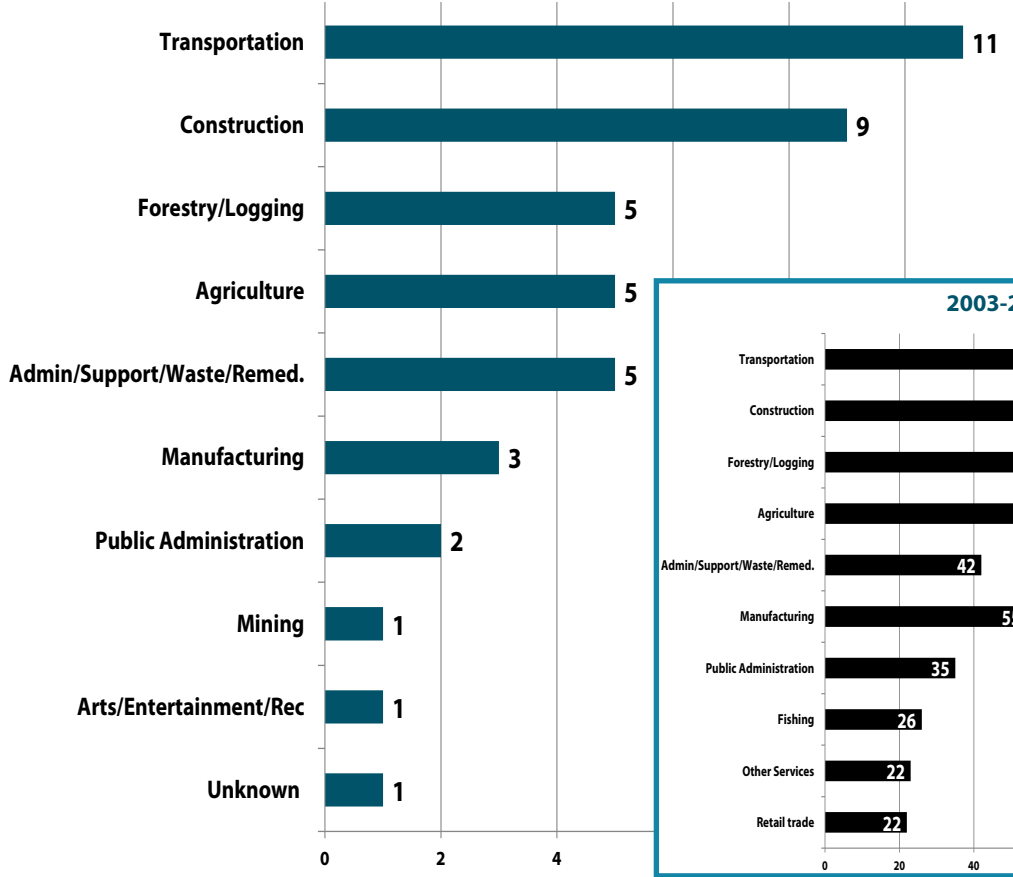


**Worker Fatalities in Oregon by Occupation and Event, 2013**

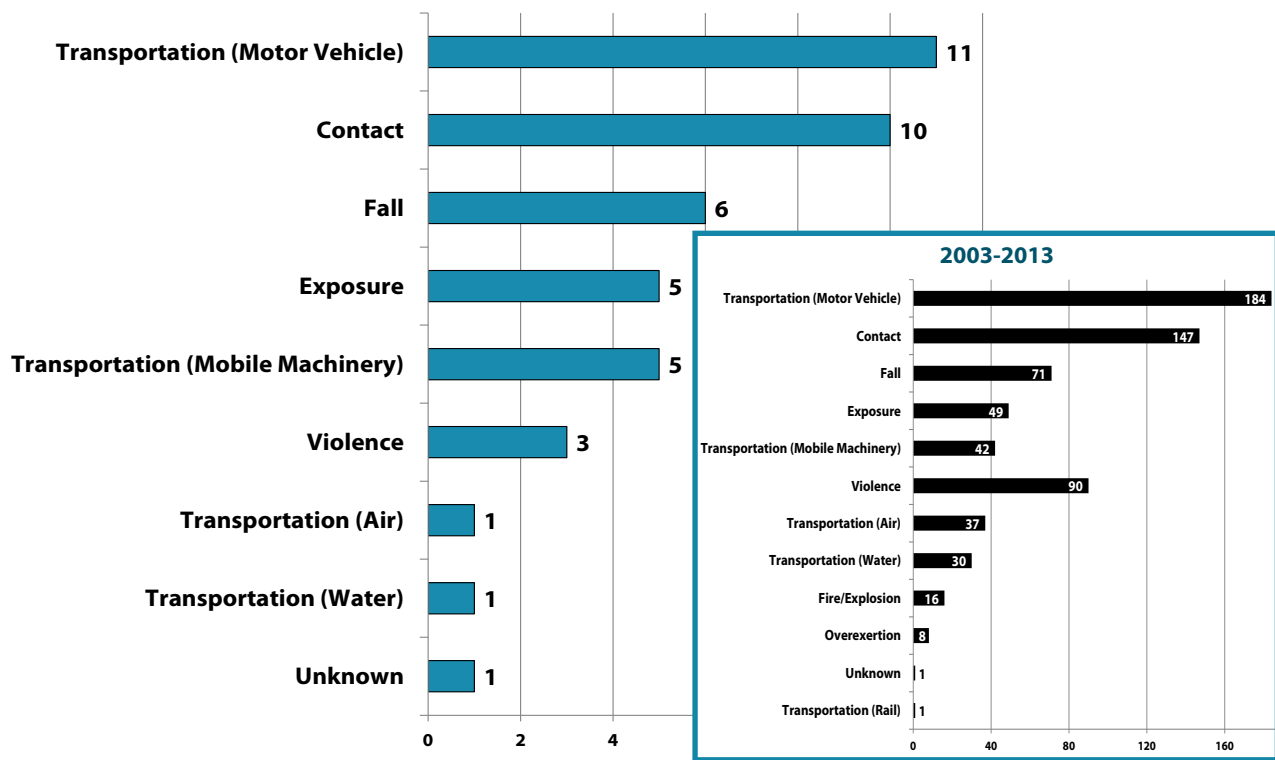


# Charts

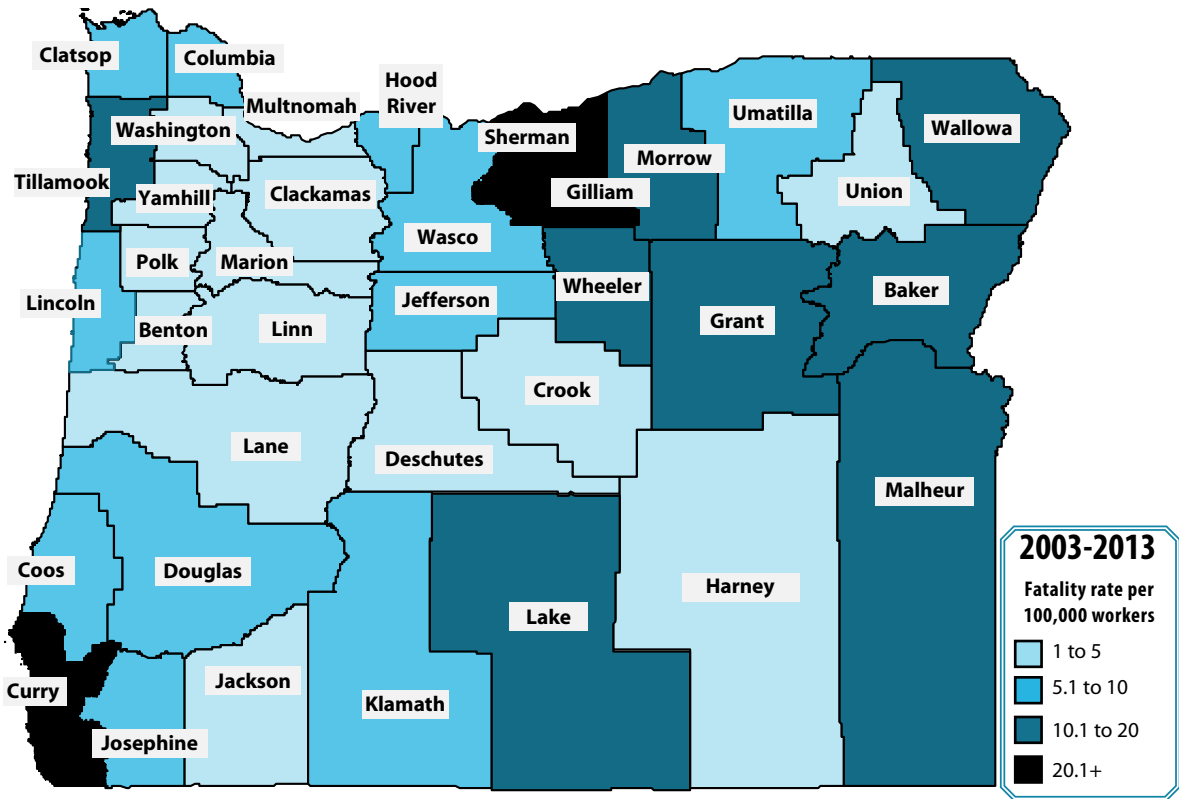
### Worker Fatalities in Oregon by Industry, 2013



### Worker Fatalities by Type of Event, 2013



# Oregon Counties



**Oregon Population, Employed Labor Force, and Fatalities by County, 2013**

	Total population	Employed labor force	Worker fatalities		Total population	Employed labor force	Worker fatalities
<b>OREGON</b>	3,919,020	1,761,021	43*				
BAKER	16,280	6145	0	LAKE	7,940	3074	1
BENTON	87,725	41372	0	LANE	356,125	154185	5
CLACKAMAS	386,080	183014	5	LINCOLN	46,560	18799	0
CLATSOP	37,270	16477	0	LINN	118,665	48375	0
COLUMBIA	49,850	20158	0	MALHEUR	31,440	11289	0
COOS	62,860	23649	1	MARION	322,880	134364	3
CROOK	20,690	7833	1	MORROW	11,425	5107	1
CURRY	22,300	7726	1	MULTNOMAH	756,530	383930	7
DESCHUTES	162,525	70810	2	POLK	77,065	31902	1
DOUGLAS	108,850	39479	1	SHERMAN	1,780	785	0
GILLIAM	1,945	769	1	TILLAMOOK	25,375	10014	0
GRANT	7,435	2795	0	UMATILLA	77,895	32121	2
HARNEY	7,260	2941	0	UNION	26,325	10749	1
HOOD RIVER	23,295	12865	1	WALLOWA	7,045	2864	0
JACKSON	206,310	86630	1	WASCO	25,810	12662	0
JEFFERSON	22,040	8256	0	WASHINGTON	550,990	269157	2
JOSEPHINE	82,815	28648	3	WHEELER	1,430	686	0
KLAMATH	66,810	25751	1	YAMHILL	101,400	45643	1

\*For a delayed death case the county where the incident occurred was unknown.

Sources: Portland State University Population Research Center and BLS Local Area Unemployments Statistics. Retrieved: August 2015.



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

2013

Transportation – Contact – Falls - Violence  
Exposure – Unknown

### Transportation (Motor Vehicle)

*Struck trees off the highway*

Transportation  
Transportation

January 10  
Douglas

OR-2013-04-1

A 71 year-old truck driver sustained significant blunt force injuries to the head and neck causing his death when his truck went off the road and hit a stand of large trees. His semi-truck was towing a fuel trailer on a northbound lane of an interstate highway with a slight curve to the right. The truck left the lane of travel continued across the median to the southbound lanes and onto the west shoulder area hitting a stand of trees. The roadway had an inch of snow, but there was no evidence of evasive maneuvers. It is not known why the truck left the lane of travel. The medical examiner report stated that the driver may have experienced a medical emergency which caused him to lose control of the vehicle.

*Struck trees off the highway*

Transportation  
Transportation

June 6  
Lane

OR-2013-12-1

A 57 year-old truck driver died from a chest injury he sustained in a motor vehicle collision after losing control of his vehicle in a turn. His truck was pulling a trailer of particle board, and traveling westbound on a highway when he failed to negotiate a right curve. The truck and trailer crossed the east bound lane, struck a guardrail and continued off the south side of the highway where several trees were struck before coming to rest off the highway. Investigators noted that he did not have his safety belt on.

*Ejected from cab*

Transportation  
Transportation

July 26  
Umatilla

OR-2013-18-1

A 51 year-old logging truck driver was killed when he was ejected from the cab as the truck rolled down an embankment. The driver detected a problem with his vehicle motor and was driving his unloaded truck to a shop for evaluation. While traveling westbound on a highway that was slightly uphill with a long sweeping left turn his truck tires left the roadway at the beginning of the turn and continued half on the pavement and half off the pavement. The truck then tipped and rolled over once down an embankment coming to rest against trees. The driver was not wearing a safety belt and was ejected. The tire marks from the accident indicated that the driver never attempted to come back on the roadway. Investigators believed that speed may have been a factor.

## Worker Fatalities – Transportation

<p><i>Crushed in cab</i></p> <p>Construction Transportation</p> <p>July 8 Multnomah</p> <p>OR-2013-15-1</p>	<p>A 50 year-old construction worker suffered fatal injuries when he lost control of his truck going down a steep hill and ran off the road. He was working at a drilling site and was hauling mud from the work site down a steep hill. A large vacuum pump unit was used to vacuum mud into a holding tank. The tank mounted on the chassis of his three-axle truck, was nearly full of mud when the worker drove off the site. Evidence showed that the worker tried to control the truck but couldn't negotiate a turn and went through a guardrail. The vehicle ran into an embankment crushing the worker between the dashboard and the back of the cab. Based on witness statements and physical evidence including skid marks, the investigator believed that the operator must have progressed down the steep grade at a rate that was too fast for the brakes to hold the vehicle's speed. The brakes got too hot and began to fade requiring additional pressure on the brake pedal to achieve the same stopping power. Heavy pressure on the brake pedal caused occasional locking of the wheels leaving skid marks and created a "runaway vehicle" condition.</p>
<p><i>Truck rollover</i></p> <p>Forestry/logging Transportation</p> <p>August 6 Josephine</p> <p>OR-2013-21-1</p>	<p>A 19 year-old water tender (tanker) truck driver died at a fire fighting site when his truck slid off the road and hit an embankment and rolled over. The driver had previously received ride-along training sessions and was evaluated by an experienced driver. This was his first day of driving the tanker truck on this fire. He was finishing the night shift and was returning to the fire camp. The truck gained speed as it was going downhill. Heading into a right turn the vehicle slid, hit an embankment on the left side of the road and then rolled over. Post-collision assessment of the truck indicated inadequate tread on the front tires, the right side brake on the front drive axle was out of adjustment, and the outside edge of the tire tread on the left front tire was damaged.</p>
<p><i>Struck by object</i></p> <p>Construction Construction</p> <p>August 14 Josephine</p> <p>OR-2013-22-1</p>	<p>A 60 year-old construction crew leader was struck and killed by a highway arrow board sign hitched to a pick-up truck after it was hit by a semi-truck. The crew leader was removing lane closure signs from the previous night's work and getting traffic control devices staged for the following night's work. She parked her pickup on the side of the road behind the fog line with lights flashing and the arrow board sign connected to the tow hitch. She was removing a sign from behind the guardrail when the arrow board and pick-up was struck by a semi-truck/trailer. The collision caused the arrow board to swing over the guardrail and strike the worker.</p>
<p><i>Crushed by rolling vehicle</i></p> <p>Transportation Transportation</p> <p>August 8 Marion</p> <p>OR-2013-23-1</p>	<p>A self-employed 69 year-old semi-truck driver suffered fatal chest and abdominal injuries when truck tires ran over him. The driver had just completed repairs on the truck. He reached up, turned on the engine, but it was still in gear and began moving. The driver was then seen running alongside the vehicle on the driver side attempting to either pull himself up or trying to turn the key off. He may have pulled on the steering wheel to pull himself up but directed the truck to the left causing it to crash into another trailer. The driver was found on the ground with abrasions and marks to the abdomen area that appeared to have been caused by a tire.</p>

## Worker Fatalities – Transportation

<p><i>Vehicle rollover</i></p> <p>Transportation Transportation</p> <p>August 19 Umatilla</p> <p>OR-2013-24-1</p>	<p>A 69 year-old driver who shuttled and transported motor vehicles sustained a fatal head injury when her passenger vehicle rolled over. She was traveling westbound on a highway and was attempting to pass a log truck on a curve. The log truck overturned and logs rolled off. Her vehicle rolled over. It did not appear that her vehicle was struck by the logs or the log truck. She was trapped inside her vehicle until removed by paramedics and pronounced dead at the scene.</p>
<p><i>Crushed in rollover</i></p> <p>Transportation Transportation</p> <p>October 13 Deschutes</p> <p>OR-2013-29-1</p>	<p>An 80 year-old truck driver suffered blunt force head trauma when he lost control of his vehicle which rolled over and crushed him in the vehicle cab. The truck was pulling two trailers loaded with recycled material, and was traveling westbound on a straight, level highway. A witness reported that the back trailer was on the westbound shoulder moving perpendicular to the first trailer subsequently causing the vehicle to overturn. The truck and the first trailer came to rest on their tops on the westbound shoulder. The back trailer then landed on top of the first trailer.</p>
<p><i>Overturned vehicle</i></p> <p>Transportation Office/Admin Support</p> <p>April 14, 2012 Jackson</p> <p>OR-2013-30-1</p>	<p>A 70 year-old who had been a mail carrier died of complications from injuries sustained in a work vehicle accident in the spring of the previous year. The incident occurred as she was negotiating a downhill curve. She had inadvertently hit the gas pedal instead of the brake pedal. The vehicle slid and spun into the embankment, then overturned both end-over-end and sideways coming to rest on its top, facing the opposite direction in a ditch. Road conditions were dry and the investigator noted that speed contributed to her losing control of the vehicle.</p>
<p><i>Crushed by rolling vehicle</i></p> <p>Transportation Transportation</p> <p>December 18 Lane</p> <p>OR-2013-38-1</p>	<p>A 40 year-old towing company worker was killed when a vehicle rolled off the towing dolly pinning him underneath. The worker and two other employees were dispatched to transport two vehicles. One vehicle was to be transported on a towing dolly pulled by a pick-up truck. The worker drove the vehicle onto the dolly, elevating the front of the vehicle, and placed a block behind the right front tire to secure it. In order to prevent damage to the transmission, the driveline of the vehicle to be towed had to be removed. He then crawled under the vehicle and began removing the four bolts securing the driveline. To reach the last bolt he had to move the vehicle backwards. Once the vehicle was moved, he crawled back underneath to remove the last bolt but did not replace the block. When the bolt was removed the vehicle rolled off the dolly and onto the worker.</p>
<p><i>Motor vehicle accident</i></p> <p>Transportation Transportation</p> <p>August 9 Multnomah</p> <p>OR-2013-40-1</p>	<p>A 52 year-old courier suffered fatal chest trauma with rib fractures in a freeway motor vehicle accident. The courier was on his last run of the day and was on the southbound western most lane of a freeway. His small passenger vehicle was hit from behind by a speeding pick-up truck forcing his car to collide with the vehicle in front. He did have lap and shoulder restraints in place and the steering wheel air bag had deployed.</p>



## Worker Fatalities – Transportation

### Transportation (Mobile machinery)

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<i>Pinned beneath ATV quad</i>	A 53 year-old rancher died from blunt head trauma and compressive asphyxiation when his all-terrain-vehicle went over backward and pinned him beneath it. The rancher was believed to be repairing fences. The racks of the ATV had approximately 90 pounds of tools and supplies for fence repair. At the time of the incident, he was driving the four-wheel ATV up a dirt trail along a fence line. The trail was sloped and narrow with elevated sagebrush roots.
Agriculture Farm/ranch	
April 22 Klamath	
OR-2013-07-1	

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<i>Crushed by rolling tractor</i>	A 71 year-old farmer suffered fatal crushing injuries when a tractor's rear tire rolled on top of him. The farmer was hooking up a battery to get the tractor started and didn't notice that it was in gear. As the battery engaged, the tractor lunged forward trapping him underneath the rear tire.
Agriculture Farm/ranch	
January 30 Yamhill	
OR-2013-13-1	

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<i>Crushed by tractor rollover</i>	A 53 year-old Hispanic orchard worker died when the tractor he was operating left a roadway, rolled down a steep ravine, and crushed him. The worker had been trained by the employer to operate the tractor during the previous fruit harvest. Based on his employer's observations during the first season, he was asked to continue operating the tractor during the following fruit harvest. Investigation revealed that the rollover protection structure (ROPS) was not in position and that the seat belt did not appear to be worn. Toxicological examination confirmed the presence of methamphetamine and amphetamine.
Agriculture Farm/ranch	
September 4 Hood River	
OR-2013-26-1	

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<i>Pinned beneath ATV quad</i>	A 31 year-old rancher was killed while mending fences on a family ranch when his four-wheeled ATV overturned and crushed him. The rancher left to mend fences mid-morning. When he didn't return by late afternoon, a family member went searching for him. He was found that evening in a ravine pinned under his four-wheeled ATV. Tracks at the scene showed the four-wheeler near the edge and went off a 45 degree bank sideways and fell five feet rolling $\frac{3}{4}$ of a turn and landed on the head, neck and upper torso of the rancher. Toxicology report confirmed 0.160 g/dL of alcohol in the rancher's blood.
Agriculture Farm/Ranch	
December 23 Morrow	
OR-2013-37-1	

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## Worker Fatalities – Transportation

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### Transportation (Water)

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*Pinned under raft*

Public Administration  
Life/physical/social science

April 15  
Coos

OR-2013-06-1

A 25 year-old female water biologist drowned when her pontoon boat flipped and the strap of her life jacket became entangled on the oarlock, pinning her underwater. Her co-worker, in a second boat, observed that she had difficulty maneuvering her raft initially. After some coaching she appeared to get better. They came upon some rapids and a willow tree that extended over and across the channel. She lost control of her boat, was swept broad-side into the swiftly running channel, and then hit the tree. This flipped her boat and she was pinned under the water unable to free herself.

### Transportation (Air)

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*Helicopter crash*

Transportation  
Transportation

September 16  
Marion

OR-2013-28-1

A 53 year-old pilot died when his helicopter crashed while transporting logs. The pilot was on his first run following a break during which the helicopter had been refueled and inspected. He was moving logs from the logging site to a location next to the logging road. Witnesses reported that the pilot dropped the logs just before the crash, indicating it was possible that the pilot had detected a serious problem and was attempting corrective action.

## Worker Fatalities – Contact

### Contact with objects and equipment

<p><i>Crushed by heavy machinery (yarder)</i></p> <p>Forestry/logging Logging</p> <p>March 2 Lane</p> <p>OR-2013-03-1</p>	<p>A 31 year-old Hispanic logger suffered fatal pelvic and abdominal injuries after he was crushed by a yarder that collapsed when a guyline broke. The logger was assigned to buck logs and maintain the landing area. The loader operator had just dropped logs in the cleanup area and signaled the logger to trim them. The logger was walking past the yarder with his chainsaw when the guyline broke at the sleeve shackle near the anchor stump. The yarder fell forward and landed on the logger. Evidence suggests that the guylines were not placed according to the manufacturer's recommendation.</p>
<p><i>Contact with rotating machinery</i></p> <p>Other Services Building/grounds maintenance</p> <p>April 26 Clackamas</p> <p>OR-2013-08-1</p>	<p>A 41 year-old Hispanic sanitation worker was killed when he either fell or was pulled into an industrial meat blender. The worker was a member of a contract cleaning crew for a meat processing facility. He was on a platform washing the blender from above while the the unguarded rotating blades were in operation. A common work practice described by his co-workers was to wrap the long hose around the torso and legs while washing equipment. There were no witnesses to the event. The investigator surmised that a segment of the hose may have fallen into the blender that became entangled in the rotating blades, pulling the worker in, or that the worker slipped on the slippery platform and fell into the blender.</p>
<p><i>Struck by falling tree</i></p> <p>Forestry/logging Logging</p> <p>April 30 Lake</p> <p>OR-2013-09-1</p>	<p>A 38 year-old Hispanic logger was struck by a falling tree and died of cervical spine fracture/spinal cord injury. The logger was bucking or cutting trees that were already down. A faller nearby signaled that he was going to cut and the logger responded to go ahead. The logger continued to work in the area and did not move into the clear. Investigation revealed that the supervisor was not enforcing a policy for maintaining clear distance (twice the height of the trees being felled) between falling trees and personnel in the area. Toxicological examination confirmed the presence of methamphetamine.</p>
<p><i>Crushed by vehicle</i></p> <p>Transportation Install/maintain/repair</p> <p>June 5 Multnomah</p> <p>OR-2013-10-1</p>	<p>A 17 year-old mechanic was killed when a semi-truck lurched forward crushing him under the right front wheel. The mechanic was on the ground adjusting or checking the brake of the semi-truck. His co-worker got into the cab of the truck and was attempting to start the vehicle while in gear, when it lurched forward and crushed the victim.</p>

## Worker Fatalities – Contact

<p><i>Struck by falling tree</i></p> <p>Forestry/logging Logging</p> <p>March 27 Lane</p> <p>OR-2013-14-1</p>	<p>A 45 year-old logger died of blunt force chest trauma when he was struck by a tree. The logger was felling timber on a steep hillside. After he radioed for help, his co-workers found him next to a tree facing down, unable to talk and had difficulty breathing. He expired at the scene. Based on the trees that had been cut and their location, it was speculated that he was felling 2-3 trees at the same time and an additional tree that was behind him might have been entangled and came down and struck him from behind.</p>
<p><i>Crushed by steel sheet</i></p> <p>Manufacturing Production</p> <p>July 12 Clackamas</p> <p>OR-2013-16-1</p>	<p>A 55 year-old manufacturing employee was struck and killed when a steel sheet fell out of the C-clamp crushing him on the concrete floor. The worker was in the process of placing a sheet of steel into a 750 ton press brake using a 2-ton hoist. As he was lifting the ~1600 pound sheet, he placed himself underneath the suspended load to push the bottom edge into the press brake jaws. The sheet slipped out of the C-clamp and fell on the worker's back as he was trying to escape, crushing him on the concrete floor.</p>
<p><i>Crushed by iron frame</i></p> <p>Manufacturing Install/Maintain/Repair</p> <p>July 24 Crook</p> <p>OR-2013-17-1</p>	<p>A 27 year-old worker was crushed and died of traumatic asphyxiation from blunt chest trauma when an iron frame he was dismantling slid off a forklift, pinned his leg and then rolled over on top of him. The worker was dismantling and salvaging parts from a rectangular iron frame (called a truss press head) that weighed approximately 1500 pounds. He used a forklift to lift the iron frame on one edge to provide better access to a motor attached to the frame. He did not secure the frame onto the forks. It is believed that as he kneeled alongside the frame on the side opposite the forklift and attempted to pull the motor, the frame dropped on his back preventing him from moving or breathing. He died at the scene.</p>
<p><i>Struck by falling tree</i></p> <p>Forestry/logging Logging</p> <p>August 1 Deschutes</p> <p>OR-2013-20-1</p>	<p>A 58 year-old timber cutter was killed when he was struck by a burning tree snag. Two cutters were dispatched to cut a burning snag after a lightning strike in a national forest. They were met by Forest Service personnel and escorted to the area. The fire crew had made some cuts on the tree the night before, but the fire was too active and they left the tree standing. The cutters assessed and discussed where to fall the tree. After the area was clear of personnel, one of the cutters looked up and saw that a large section of the tree had burned through and snapped. The limbs of the falling snag hit and injured him. The other cutter was struck and crushed by the butt of the snag that began to burn as it hit the ground. He died of blunt force trauma to the head and chest. The injured cutter was taken by life flight to a hospital, treated for a shoulder injury.</p>
<p><i>Struck by container door</i></p> <p>Admin/support/waste remediation Install/maintain/repair</p> <p>November 4 Gilliam</p> <p>OR-2013-36-1</p>	<p>A 21 year-old worker died when he was struck in the head by a 700-pound top-hinged steel door of a 20-yard waste container. The worker and another employee were assigned to hook plastic liner sheets in the container. To enter the container, the steel door was opened by using a forklift and was propped opened by only one metal door stand (bar with indentation for door) held in place by the weight of the door. The liners were attached inside the container on hooks at the end, center and at the door. As the worker stepped backward out of the container, he bumped into the door stand, knocking the stand away, and the door swung down striking the worker's head.</p>

## Worker Fatalities – Falls

### Falls

<i>Fall from elevation</i>	A 33 year-old construction worker fell off a roof approximately 15 feet from the ground and died 11 days later from multiple injuries sustained in the fall. His company was contracted to replace roof shingles on a residential facility. On the day of the incident, it was planned to re-install anchors for fall protection and continue removing the old shingles on another section of the house. The worker was observed climbing the extension ladder with nails and an anchor. Another worker inside the garage heard the impact on the garage roof and then onto the sidewalk. The homeowner and other workers indicated that there was frost in the yard and roof of adjacent homes at the time of the incident. The deceased may have slipped, falling onto the garage roof and then onto the concrete sidewalk.
Construction Construction	
February 2 Multnomah	
OR-2013-02-1	
<i>Fall from mobile machinery</i>	A 41 year-old Hispanic vineyard worker sustained a fatal head injury when he fell from a trailer and struck his head on the pavement. A tractor was pulling a trailer-mounted chemical tank while the worker stood on a make-shift wooden platform attached to the trailer. The platforms were added on each side of the trailer for employees to stand on and ride to and from the field. The worker's baseball cap blew off and the tractor operator stopped so that the worker could retrieve his cap. It is not known whether the worker fell while attempting to step back on the platform while the trailer was moving or whether he fell once on the platform and the trailer started moving. The vineyard worker died at the scene.
Agriculture Farm/ranch	
April 15 Polk	
OR-2013-05-1	
<i>Fall from scaffold</i>	A 25 year-old construction worker died from a fall off a scaffold. The worker was building a scaffold in between girders under a traffic bridge. He was creating the scaffold with 4X4 timbers set in-between the girders below the bridge with 1-foot spacing then setting 5/8 inch thick plywood on top of the 4X4 timbers for a working/walking surface. He was not wearing his fall protection and when he stepped off the leading edge of the scaffold he fell 23 feet to the rocks below. He died in the hospital 24 hours later from blunt force head trauma he sustained in the fall.
Construction Construction	
June 6 Benton	
OR-2013-11-1	
<i>Fall from articulating boom lift</i>	A 31 year-old worker suffered head/abdominal injuries after being ejected 30 feet out of a boom lift and died two weeks later. The worker was repairing communication equipment on top of a light pole. The repair was complete and the lift was lowered to allow the co-worker to exit the lift bucket and conduct tests on the ground. The worker re-entered the lift bucket to ascend and take photographs of the completed work. He raised the boom lift up to its maximum angle with the counterweight downhill on a slope. This caused the lift to tip over ejecting the worker from the bucket. He had a full body harness on but it was not connected to the anchorage point on the lift.
Construction Construction	
August 9 Lane	
OR-2013-25-1	



## Worker Fatalities – Falls/Violence

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<i>Collapsed truss fall</i>	A 33 year-old carpenter foreman sustained fatal blunt force head trauma when he fell and was struck by a truss as it collapsed during installation on a residential building. Throughout the installation and prior to the collapse workers expressed to the foreman that bracing was inadequate. Lateral braces were installed but not ground or diagonal bracing as directed in the diagram provided by the manufacturer upon delivery of the trusses.
Construction Construction	
September 6 Clackamas	
OR-2013-27-1	
<i>Fell down stairs</i>	A 74 year-old security guard died of a blunt force head injury when he fell down office stairs. The guard had called dispatch to notify them he was going off duty. Two hours later his spouse called the company to inquire about her husband's whereabouts who had not arrived home as expected. He was found unresponsive at the base of the stairs face down on the concrete floor. Blood was found on the floor and the handrail at the top of the stairwell was loose. Videotape confirmed that no one entered or left the office from the time the guard called dispatch until the victim was found.
Admin/Support/Waste Remediation Protective Services	
November 22 Washington	
OR-2013-31-1	
<i>Fell from equipment</i>	A 79 year-old owner and operator of a granite pit fell off a large front-end loader and died of cardiac arrest from trauma. He was believed to be repairing or conducting maintenance work while standing on the front-end loader when he fell approximately eight feet from the loader to the ground. The medical examiner determined that the cause of death was sudden cardiac arrhythmia due to stress of genital and pelvic injuries he suffered from the fall.
Mining Install/Maintain/Repair	
June 8 Josephine	
OR-2013-42-1	

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## Violence

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<i>Homicide</i>	A 41 year-old reserve police officer was shot while responding to a house fire and died the following day. The reserve officer and his partner heard a call about a house fire. While on their way to respond the dispatcher notified the officers that there was a report of a man with a handgun at the location. At the scene, the partner dropped off the reserve officer at one end of the block where the fire was reported. In his vehicle, the partner proceeded to where an unidentified male was being interviewed by another officer who arrived on the scene. The reserve officer saw his partner and other officer with the unidentified male and began walking towards them. At some point, the reserve officer realized that the individual being interviewed by the other two officers was not the suspect. He then headed back to the where he was dropped off. On his way, he encountered the resident of the burning house with a gun. A neighbor reported that he saw the reserve officer with his gun at his side yelling at the individual to drop his weapon just before the gunshot hitting the reserve officer in the head.
Public Administration Protective Services	
November 4 Clackamas	
OR-2013-32-1	

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## Worker Fatalities – Violence/Exposure

<p><i>Animal attack</i></p> <p>Other Services Personal Care/Services</p> <p>November 9 Washington</p> <p>OR-2013-33-1</p>	<p>A 36 year-old animal caretaker died when she was mauled by a cougar. Although the company policy required two qualified staff members to work together during the lockout of dangerous animals, she was working alone. Investigation report revealed that inadequate staffing caused frequent violations to this rule. The caretaker was attempting to enter and clean one of the cougar enclosures when the incident occurred. The company lockout procedure was ineffective and during the process subjected caretakers to contact with cougars. This procedure and the poor design of the enclosures made cleaning a time consuming task, which compelled the keepers to violate the lockout policy.</p>
<p><i>Homicide</i></p> <p>Manufacturing Unknown</p> <p>November 13 Marion</p> <p>OR-2013-43-1</p>	<p>A 46 year-old warehouse supervisor was found dead from a gunshot wound in a company parking lot. Employees arriving for work early one morning found the victim, and notified the police. Officers arrived on site and began their homicide investigation.</p>

## Exposure to Harmful Substance or Environment

<p><i>Chemical exposure</i></p> <p>Construction Install/Maintain/Repair</p> <p>January 26 Multnomah</p> <p>OR-2013-01-1</p>	<p>A 50 year-old worker died from exposure to methylene chloride while stripping a second layer of bathtub coating. He was working alone in a small windowless bathroom with door closed. Other than the ceiling fan there was no additional ventilation. Three hours after he began the work he was found hunched over the side of the bathtub, with his head submerged in the water. It is speculated that the asphyxiating effects of the methylene chloride may have altered his judgment. At some point he decided to turn the water on in the tub, possibly to splash his face. He never regained consciousness and died two days later. Cause of death was cerebral anoxia from near drowning and inhalation of methylene chloride. On the worker's truck a portable ventilation fan and supplied air respirator were found but not used.</p>
<p><i>Electrocution</i></p> <p>Construction Construction</p> <p>July 30 Curry</p> <p>OR-2013-19-1</p>	<p>A 35 year-old journeyman lineman was electrocuted when he made contact with high-voltage electricity. The lineman climbed up onto a metal structure that supported isolation switches for a 115 KV transmission line. The power was shut off to the transmission line and it was tested prior to hooking up ground to the line. The lineman assumed he was in an equipotential zone and was rigging straps so that the structure could be moved by a crane to a new foundation a few feet away. In the work set-up there was no ground between the driven ground rod and the grounding grid for the metal structure creating a difference in potential between the ground on the power line and frame being moved. The driven ground was not checked for voltage after being hooked to the power line. The test would have shown electrical power on the driven ground rod. The lineman was electrocuted when he made contact with the metal frame work and the middle horizontal switch which was still connected to the line.</p>

## Worker Fatalities – Exposure

*Electrocution*

Construction  
Construction

November 5  
Multnomah

OR-2013-34-1

A 27 year-old apprentice electrician was electrocuted when he was connecting electrical wires in a junction box in a bathroom ceiling space. During a building bathroom remodel, the electrical subcontractor disconnected lighting circuits at junction boxes mounted in the ceiling space in the hallway area outside of the bathroom. Tags were not attached at all points where circuits could be energized. Emergency and general lighting fixtures and wiring were installed and wires were run to adjacent junction boxes: one for general lighting and the other for emergency lighting. The apprentice electrician located the circuit breaker for the emergency lighting on a different floor, shut off and locked out the circuit breaker. He then reconnected wires to one of the existing junction boxes in the hallway. A witness observed him finishing up connections in general lighting rather than the emergency lighting junction box in the restroom. The apprentice mentioned to the witness that he had just been shocked. The witness heard the apprentice electrician fall and then found him collapsed on the restroom floor. It appeared that the apprentice electrician reconnected the wrong wires in the hallway junction box and energized the general lighting circuit.

*Electrocution*

Admin/support/waste/  
remediation  
Building/grounds  
maintenance

October 30  
Multnomah

OR-2013-35-1

A 39 year old self-employed landscaper was electrocuted when his metal saw came into contact with a high-voltage power line. The landscaper was hired to trim hedges that were approximately 20 feet high. He used a 14-foot aluminum orchard ladder against the thick hedges to access the top. Evidence suggests that when the metal blade of his gas powered saw contacted the 7200 volt power line he fell off the ladder to the ground below. His employee glanced towards the location of the landscaper and saw the power tool engulfed in flames. He then found the landscaper on the ground with his right arm in contact with the metal ladder. The landscaper died at the scene.

*Heat stroke*

Admin/support/waste/  
remediation  
Buildings/grounds  
maintenance

November 11  
Clackamas

OR-2013-39-1

A 38 year-old certified arborist suffered heat stroke while he was climbing a 150 foot fir tree in +95°F temperature and died on the way to the emergency room. The arborist had climbed three smaller trees the morning of the incident. On the way to the afternoon job, the crew stopped for lunch in an air-conditioned restaurant. At the site the arborist climbed a tall tree to attach rigging for a tree-falling job. When the arborist reached the first set of branches, about 60 feet off the ground, he began behaving erratically and was not following sound climbing procedures. He fell backward but was caught by his fall restraint harness and appeared to be having a seizure. A fellow arborist climbed to his location and lowered him to the ground. Electrolyte drinks were available at the site and the crew had been trained on heat stress prevention. Emergency personnel administered CPR but no pulse was re-established.

## Worker fatalities - Unknown

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### Unknown

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*Complications from paraplegia*

Unknown  
Construction

October 1988  
Unknown

OR-2013-41-1

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A 60-year old worker died from complications of years of paraplegia following an industrial accident. The medical examiner report and the death certificate indicated that the worker's condition was as a result of a traumatic work injury that occurred approximately 25 years prior to his death. The worker died in Lincoln County. However, documents related to his injury and where it occurred could not be found. His occupation was recorded as ironworker.

## Event Definitions

The event or exposure describes the manner in which the injury or illness was produced or inflicted by the source of injury or illness.

### **CONTACT WITH OBJECTS AND EQUIPMENT**

Codes apply to injuries produced by contact between the injured person and the source of injury except when contact was due to falls, transportation accidents, fires, explosions, assaults, or violent acts. Contact may be denoted by a statement that the injured person struck or was struck by an object, was caught in an object, rubbed against an object, or by words such as "hit by," or "hit," "bumped into," "crushed by," or "banged."

### **FALLS**

Falls are events in which the injury was produced by impact between the injured person and the source of injury when the motion producing contact was generated by gravity.

### **BODILY REACTION AND EXERTION**

Codes apply to cases, usually non-impact, in which injury or illness resulted from free bodily motion, from excessive physical effort, from repetition of a bodily motion, from the assumption of an unnatural position, or from remaining in the same position over a period of time.

### **EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS**

Codes apply to cases in which the injury or illness resulted from contact with, or exposure to, a condition or substance in the environment. Cases of burns, heat stress, smoke inhalation, or oxygen deficiency resulting from an uncontrolled or unintentional fire are generally coded Fire and Explosions, unless a transportation incident or assault or violent act was involved.

### **TRANSPORTATION ACCIDENTS**

This code covers events involving transportation vehicles, powered industrial vehicles, or powered mobile industrial equipment in which at least one vehicle (or mobile equipment) is in normal operation and the injury/illness was due to collision or other type of traffic accident, loss of control, or a sudden stop, start, or jolting of a vehicle regardless of the location where the event occurred. References to "vehicles" in should be interpreted to include powered industrial vehicles and powered mobile industrial equipment unless otherwise noted. Cases classified in this code include pedestrians, roadway workers, or other non-passengers struck by vehicles, powered industrial equipment on or off the roadway (including indoor locations) when the accident meets these criteria (a) at least one vehicle was in regular operation, and (b) the impact was caused by a traffic accident or forward/backward travel of the vehicle.

### **FIRES AND EXPLOSIONS**

Codes apply to cases in which the injury or illness resulted from an explosion or fire. Included are cases in which the person fell or jumped from a burning building, inhaled a harmful substance, or was struck by or struck against an object as a result of an explosion or fire. This division also includes incidents in which the worker was injured due to being trapped in a fire or whose respirator had run out of oxygen during a fire. Excluded from this category are injuries to firefighters resulting from lifting fire hoses and falls not related to the fire or explosion itself, such as falls in the parking lot of a burning building.

### **ASSAULTS AND VIOLENT ACTS**

Assaults and Violent Acts include cases in which a person was injured or made ill by intentional assaults or by violent, harmful actions of unknown intent. Included in this division are assaults by others, injuries to oneself, and assaults by animals. This category includes injuries occurring in a hostile environment even though the person injured was not the intended victim, such as a teacher hit while breaking up a fight.

### **OTHER EVENTS OR EXPOSURES**

This division classifies any event or exposure, which is not classified or listed under any other division.

Adapted from US Bureau of Labor Statistics (2012), *Occupational Injury and Illness Classification Manual*. US Department of Labor. Available online (December 28, 2012): [http://www.bls.gov/iif/osh\\_oiics\\_2\\_4.pdf](http://www.bls.gov/iif/osh_oiics_2_4.pdf).



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Oregon Fatality Assessment and Control Evaluation (OR-FACE) is a project of the Oregon Institute of Occupational Health Sciences at Oregon Health & Science University (OHSU). OR-FACE is supported by a cooperative agreement with the National Institute for Occupational Safety and Health (NIOSH) (grant #2U60OH008472) through the Occupational Public Health Program (OPHP) of the Public Health Division of the Oregon Health Authority.

OR-FACE conducts surveillance, investigation, and assessment of traumatic occupational fatalities in Oregon, and produces safety materials to promote worker safety. OR-FACE investigations of fatal occupational incidents assess risk factors that include the working environment, the worker, activity, tools, energy exchange, and role of management.

### WE WANT YOUR FEEDBACK

All OR-FACE publications are posted on the OR-FACE website at  
<http://www.ohsu.edu/xd/research/centers-institutes/oregon-institute-occupational-health-sciences/outreach/or-face>

Let us know how you use them!  
A short survey on the website allows you to offer feedback. We appreciate your comments.

## About the Oregon Institute of Occupational Health Sciences at Oregon Health & Science University

The Oregon Institute of Occupational Health Sciences is dedicated to health and safety in the workforce. The Institute's mission is to promote health, and prevent disease and disability among working Oregonians and their families during their employment years and through retirement. The Institute does so through basic and applied research, outreach, and education.

Oregon Health & Science University is dedicated to improving the health and quality of life for all Oregonians through excellence, innovation and leadership in health care, education and research. OHSU includes the schools of Dentistry, Medicine, Nursing, and Science & Engineering; OHSU Hospital; Doernbecher Children's Hospital; numerous primary care and specialty clinics, multiple research institutes; and several outreach and community service units. OHSU is an equal opportunity, affirmative action institution.

### Published August 2015

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