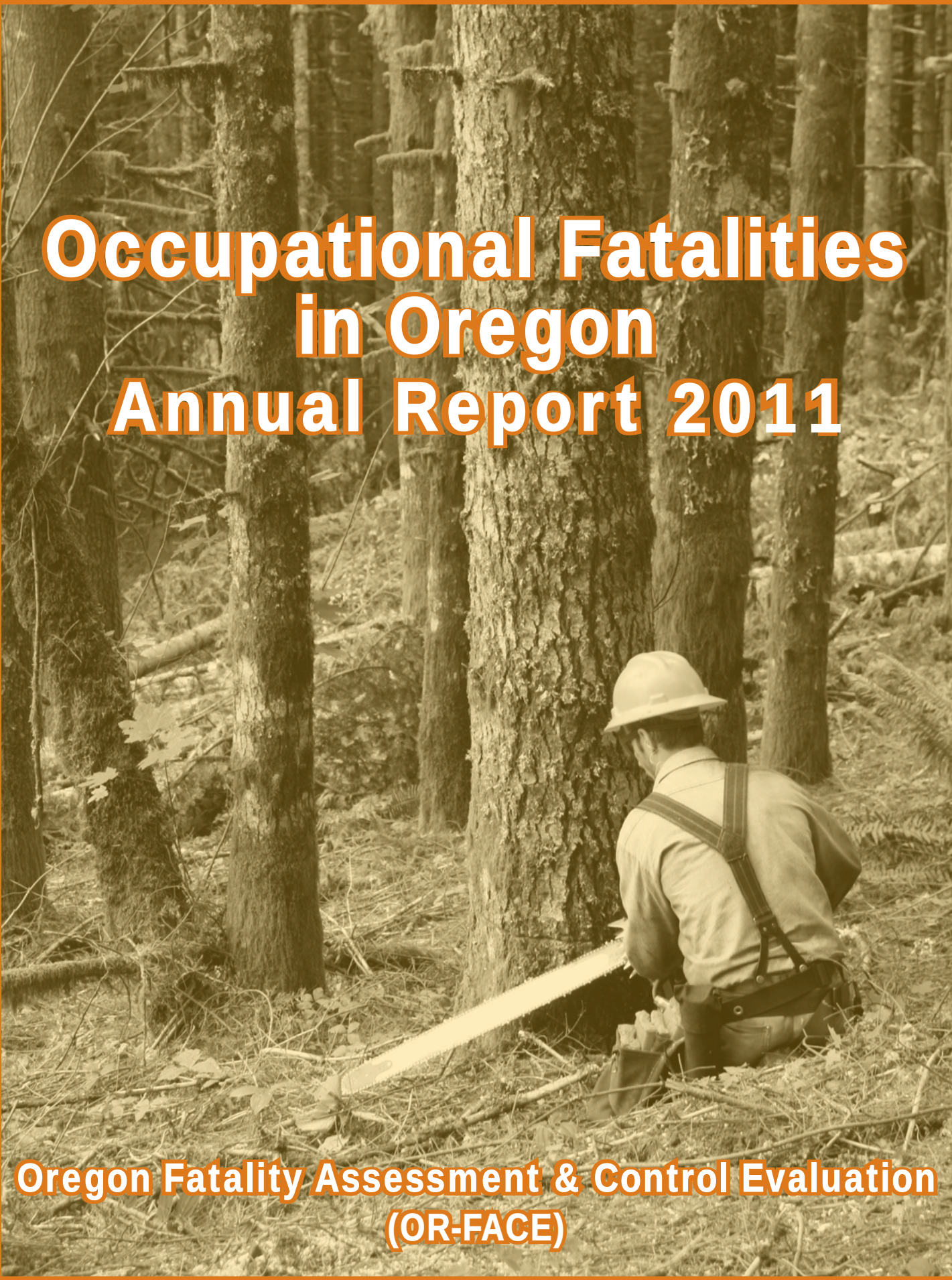




Occupational Fatalities in Oregon Annual Report 2011

**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 traumatic injuries that occur 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
OPHP	Occupational Public Health Program
OR OSHA	Oregon Occupational Safety and Health Division
SOC	Standard Occupational Classification

Annual Report 2011

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 a better understanding of these fatal incidents may help to save the lives of other workers in similar situations.

Oregon FACE Program

*Center for Research on Occupational and Environmental Toxicology –
Oregon Health & Science University*

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*OR-FACE is supported by the National Institute for Occupational Safety and Health (grant #2U60OH008472-06) through the Oregon Health Authority
(Jae Douglas, PhD MSW, Principal Investigator).*

Summary

REPORT HIGHLIGHTS

- OR-FACE conducts surveillance, investigation, assessment, and outreach related to traumatic occupational fatalities in Oregon (see pp.5-6).
- Publications for 2011 include two fatality investigation reports and the 2008 annual OR-FACE report (see p.6).
- Basic characteristics of fatal events and the workers involved are quantified in charts (see pp.7-12).
- An abstract for each incident provides a brief description of each event and contributing factors (see pp.13-26).
- Contact OR-FACE for more information or access our website survey to offer feedback (see back cover).

INTRODUCTION

In 2011, Oregon Fatality Assessment and Control Evaluation recorded 59 fatal occupational incidents and worker deaths. This number represents a rate of 3.3 fatalities per 100,000 employed workers in the civilian labor force in Oregon. The national overall fatal work injury rate in 2011 was 3.5 fatal injuries per 100,000 full-time equivalent workers (CFOI).

The following notable trends occurred in 2011:

- The total number of fatalities rose compared to the previous year.
- Transportation was the most common event and occupation for workplace fatalities, while logging and forestry was the most fatal industry.
- Deaths among female workers increased, but deaths among Hispanic workers decreased.

Core Activities

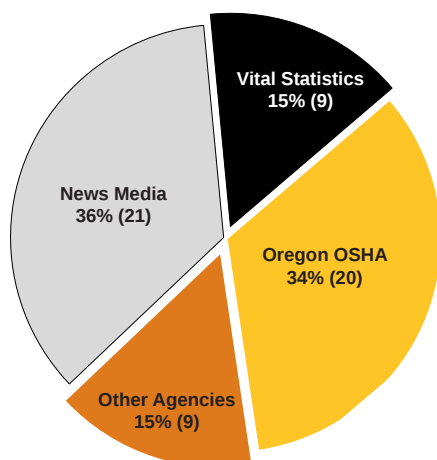
SURVEILLANCE

The OR-FACE surveillance system is comprised of 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 local news websites, and daily Oregon Emergency Response System (OERS) reports. Since 2008, OR-FACE added Google keyword alert searches to its surveillance system. For 2011, earliest first notification for work-related fatalities originated mostly from news reports and Oregon OSHA (see below).

ASSESSMENT

When fatalities are identified as a FACE case, sufficient data and information are collected about each incident to produce an abstract. OR-FACE analyzes incident data to identify and summarize trends, grouping incidents by coded industry (NAICS), occupation (SOC), and event (OIICS), and by demographic and other variables, such as the specific source or setting of the injury. Each OR-FACE incident is summarized with an abstract based on the surveillance data. Abstracts illuminate each fatality with the aim of preventing similar fatalities in the future. Assessment data sources include Oregon OSHA investigation reports, Medical Examiner reports, police investigations, news reports, Workers’ Compensation records, and occasionally other records such as photo disks, business profiles, hospital or emergency response records, or investigation reports from other sources. In 2011, 24 OR-FACE cases were investigated by Oregon OSHA and 28 were investigated by other agencies such as sheriff’s offices, police departments, the US Coast Guard, or insurers.

Source of notification for OR-FACE incidents



Timing of notification following incident

	Total	Oregon OSHA	Vital Statistics	News Media	Other
0-2 days	34	16	1	15	2
3-30 days	7	4	-	3	-
1-3 months	3	-	3	-	-
3-6 months	4	-	3	-	1
6-12 months	3	-	-	2	1
12+ months	8	-	2	1	8

Core Activities

INVESTIGATION

OR-FACE conducts in-depth investigations for selected cases with the assistance of contractors with relevant industry-specific expertise. Contractors work in conjunction with OR-FACE staff to produce reports, which are reviewed by a board of professional safety experts prior to publication. Investigation reports seek to draw attention to root causes and prevention recommendations for each fatality case. In 2011, two investigation reports were published on logging fatalities. The first 2011 investigation was about the death of a 45-year-old logger, working as a choker setter in a skyline yarding operation, who was killed when he was crushed by the skyline carriage. The second fatality investigation was about a 30-year-old logger, working as a rigging slinger in a yarding operation, who was killed when he was struck by a swinging log in a moving turn. Two OR-FACE investigation reports were featured in the National Safety Council's Safety + Health Magazine—Logger Killed Under Rigging When Carriage Drops (OR-FACE case 2006-24) and Temporary mill worker killed in fall down manlift shaft (OR-FACE case 2007-57).

OUTREACH

Overall, OR-FACE outreach efforts include publications and their distributions, safety events and initiatives, posters and presentations, and field intervention research. Published OR-FACE safety materials are distributed online, directly by mail, and through collaboration with target organizations. In 2011, OR-FACE continued its support and participation in the O[yes] (Oregon Young Employee Safety) Coalition by taking the lead on conducting a needs assessment with employers in March and conducting several focus groups to engage young workers in discussing workplace hazards, issues impacting their health and safety, and outreach strategies in April. OR-FACE safety event participation included NW Agricultural Show, the Governor's Occupational Safety and Health Conference, NW Youth Careers Expo, the Women in Trades Career Fair, and the National American Industrial Hygiene Association Conference. At the 2011 Oregon Public Health Association Meeting, OR-FACE presented "Oregon's Efforts to Prevent Young Worker Injuries and Fatalities" for the conference's Child & Youth Health and Safety panel.

2011 Publications

Investigation Report

- Logger killed under rigging when carriage drops
- Rigging slinger killed by swinging log in yarding turn

Annual Report

- Oregon Fatality Assessment and Control Evaluation Annual Report 2008

Find published safety booklets, reports, and other information 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 are protected from disclosure under Oregon law (ORS 432.060).

Charts

Overall, the number of fatalities went up compared to the 51 fatalities in 2010. However, annual fatalities between 2010 and 2011 remain lower when compared to the previous three years. Between 2007 and 2009, worker deaths averaged 64 occupational fatalities per year.

Though transportation remains the most common event and occupation for Oregon workplace fatalities, logging and forestry was the most fatal industry with 10 total fatalities. After transportation events, the second most frequent cause of death was contact with objects or equipment. After transportation occupations, farming and ranching occupations had the second highest occupational death rate.

NOTE: In charts and abstracts, OR-FACE highlights independent risk factors by splitting combinations in a few of the original two-digit occupational codes: for industry (NAICS), Agriculture/Fishing/Forestry/Hunting; for occupation (SOC), Farming/Fishing/Forestry, Construction/Extraction, and Transportation/Material Moving. For event (OICS), Transportation is divided into types: Motor Vehicles, Mobile Machinery, Air, and Water.

Although women make up just over half of the Oregon population, they are underrepresented in recorded occupational fatalities. The historical average of female work-related deaths is 7.21%. However, 2011 was the highest percentage of female fatalities to date. This year, 9% (5 of the 59) of the recorded deaths were women. These deaths resulted from violence, falls, and a motor vehicle incident. Hispanic worker deaths fell from 16% in 2010 (the highest recorded) to 10% in 2011. The percent of death among Hispanic workers were lower than that of the Hispanic population in Oregon (12.2%). Of the 6 Hispanic worker deaths, 4 were the result of contact with an object or equipment event.

There were 8 delayed death cases in 2011, compared to 2 cases in 2010. Delayed death is defined as death over 2 days following the date of injury. Delayed deaths in 2011 ranged from 9 days to over 40 years.

There were no recorded fatalities caused by air transportation, nor were there any among the occupations of arts, design, sports, or media; business and finance; life, physical, or social science, or related to sales. There were also no recorded fatalities in the administrative, support, waste management, remediation services sector, or in the retail trade or utility industries.

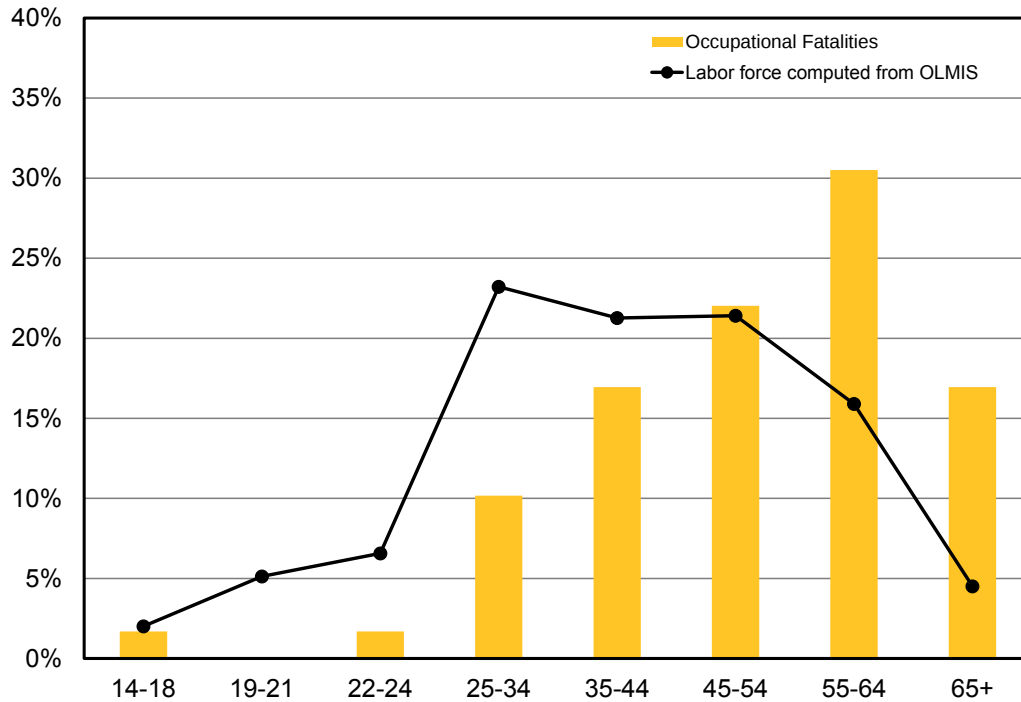
Delayed Death

Worker Fatalities with Delayed Death from Date of Injury (over 2 days), 2011

Event	Cause of Death	Interval	Reference
Contact	Penetrating brain injury	16 days	OR 2011-12-1 (p. 17)
Fall	Complications of postoperative bowel obstruction following femur fracture	9 days	OR 2011-35-1 (p. 23)
Contact	Pneumonia and shock lung with sepsis following blunt trauma	7 years	OR 2011-43-1 (p. 19)
Contact	Malnutrition-inanition following paralysis	3 years	OR 2011-45-1 (p. 20)
Fall	Phlebothrombosis following traumatic knee injury	1 month	OR 2011-52-1 (p. 24)
Fall	Complications of a head injury	45 years	OR 2011-55-1 (p. 24)
Contact	Failure to thrive following a traumatic brain injury	44 years	OR 2011-56-1 (p. 20)
Fall	Pulmonary embolism following knee injury	3 months	OR 2011-57-1 (p. 24)

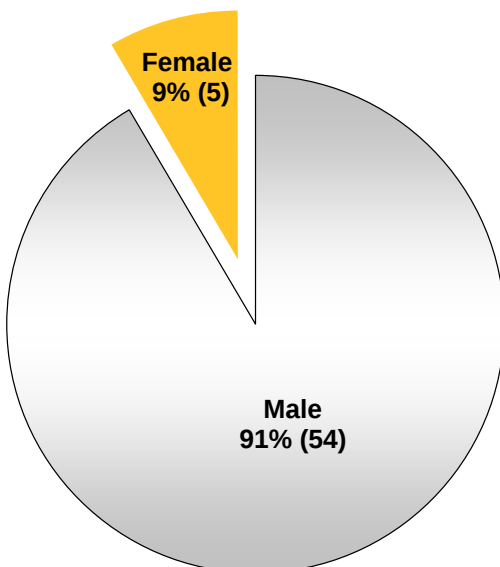
Charts

**Occupational Fatalities in Oregon by Age,
Compared to National Age Distribution of Civilian Labor Force, 2011**

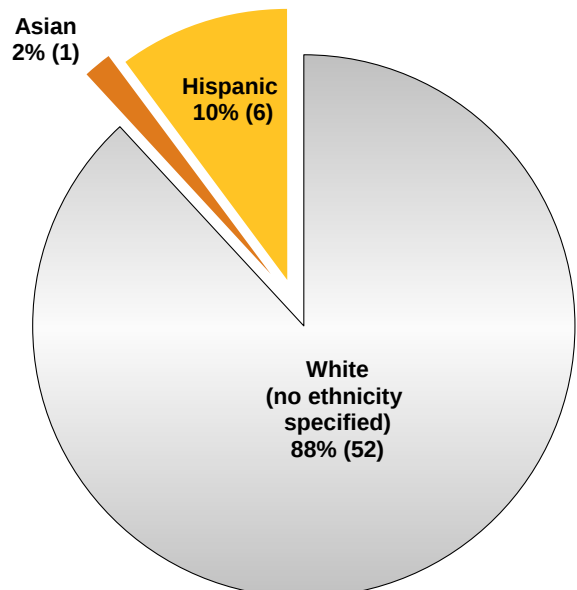


Source: OLMIS (OREGON LABOR MARKET INFORMATION SYSTEM), <http://www.qualityinfo.org/olmisj/qwi>
Retrieved: March 2013

Worker Fatalities by Gender, 2011

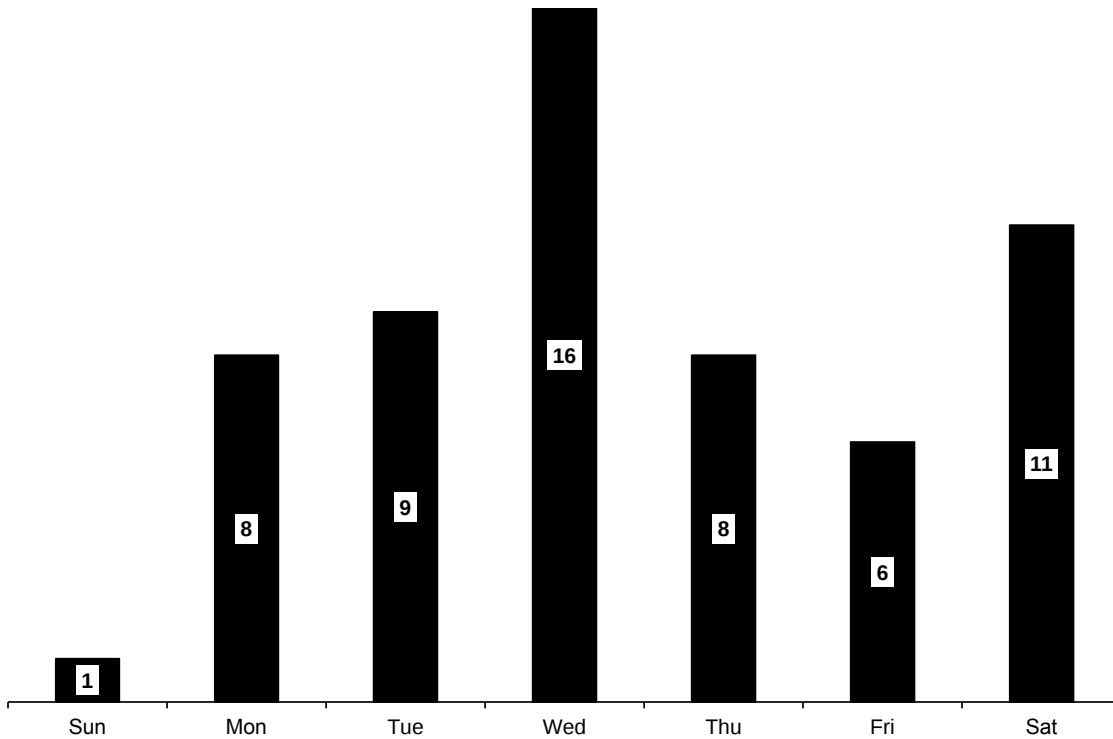


Worker Fatalities by Race/Ethnicity, 2011

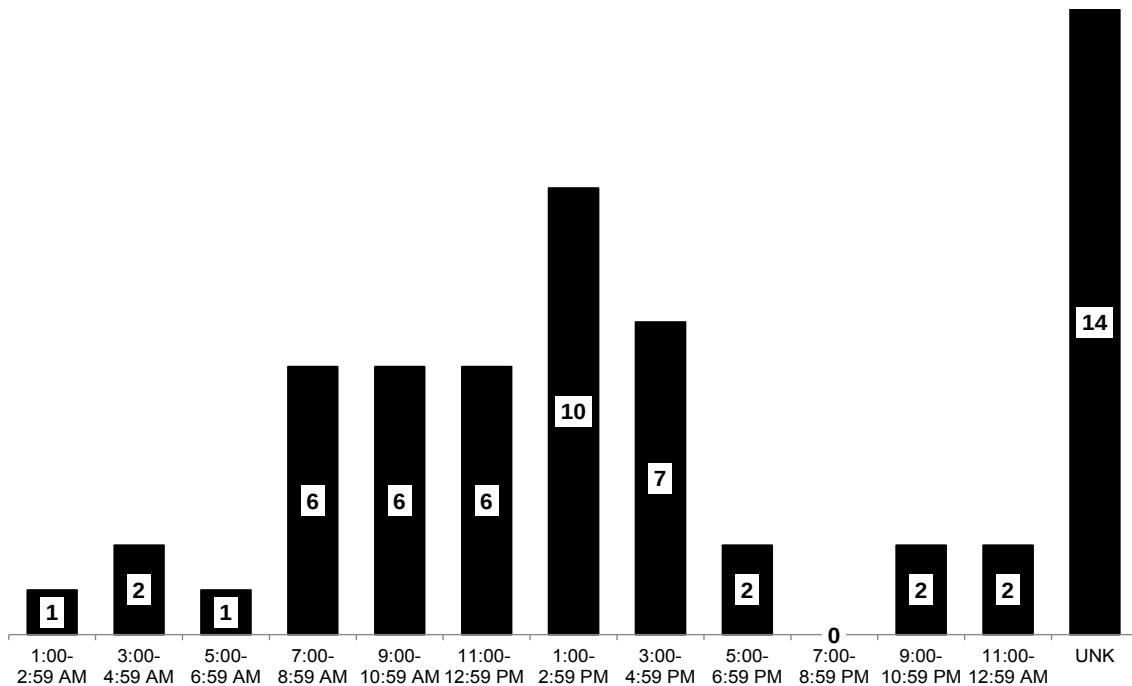


Charts

Worker Fatal Incidents and Total Fatalities by Day, 2011

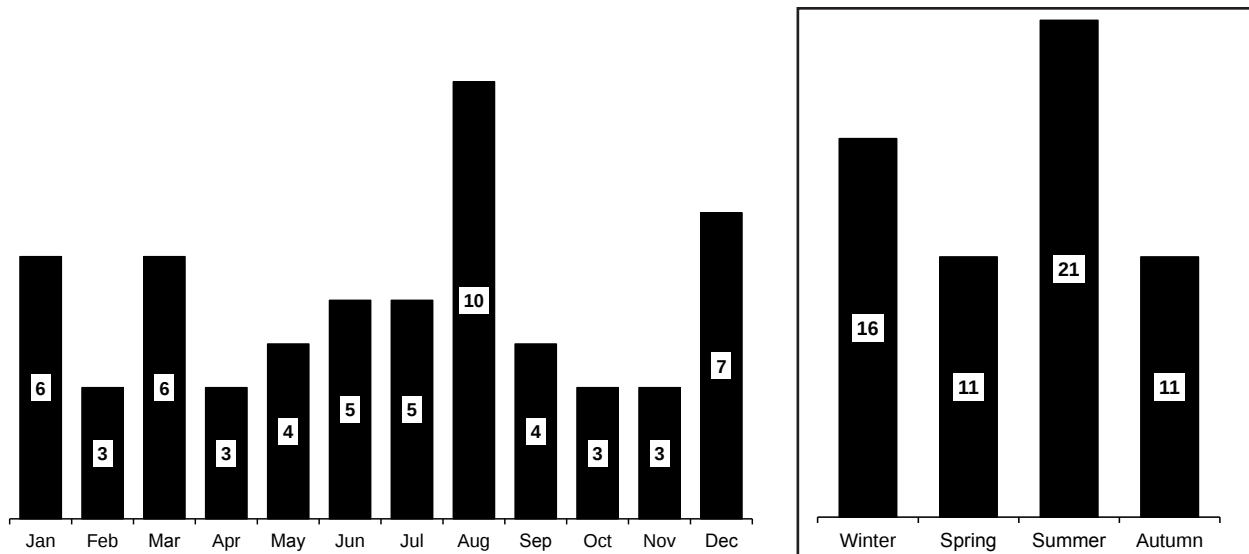


Worker Fatal Incidents and Total Fatalities by Time of Incident, 2011

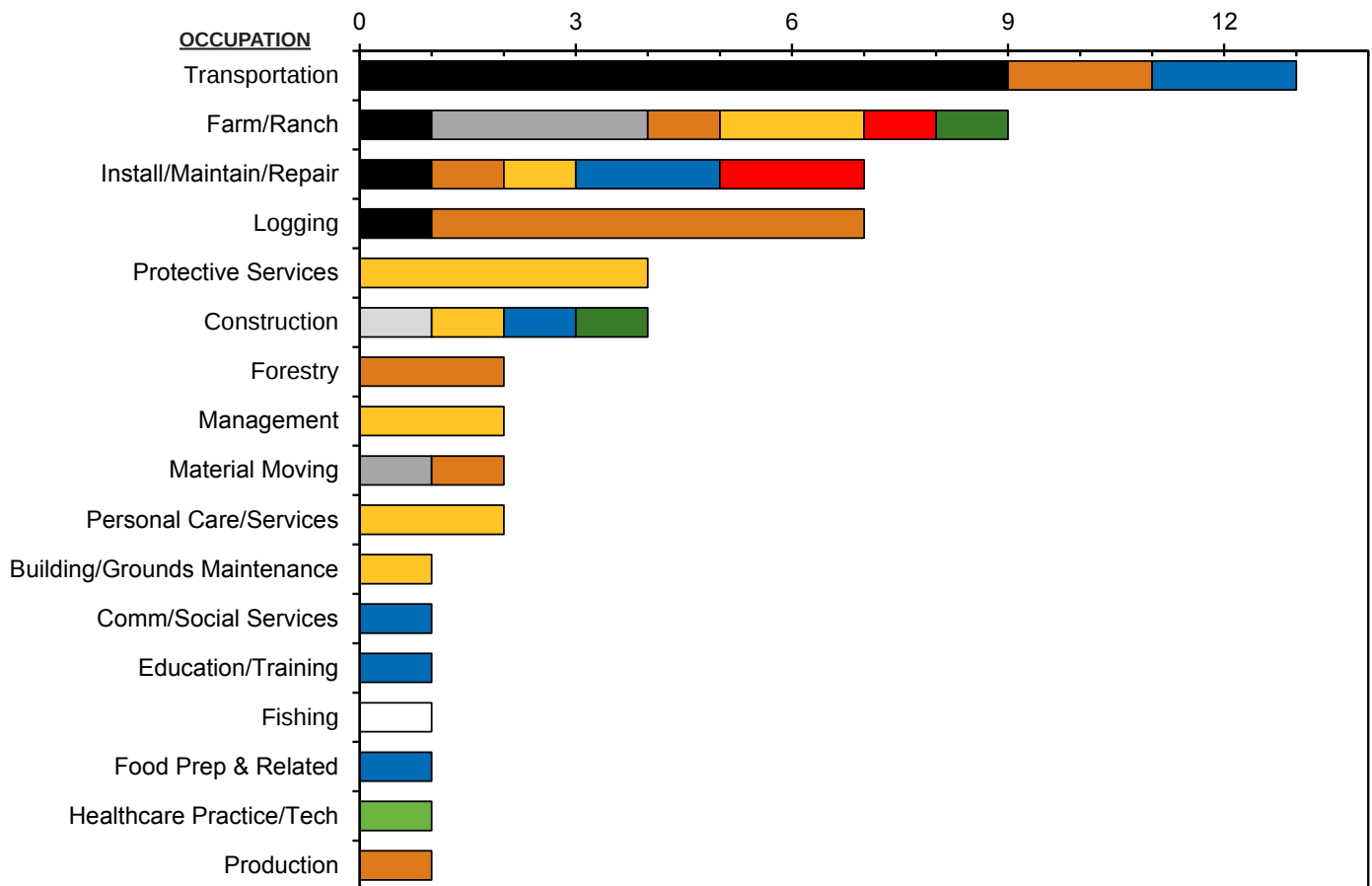


Charts

Worker Fatal Incidents and Total Fatalities by Month and Season, 2011

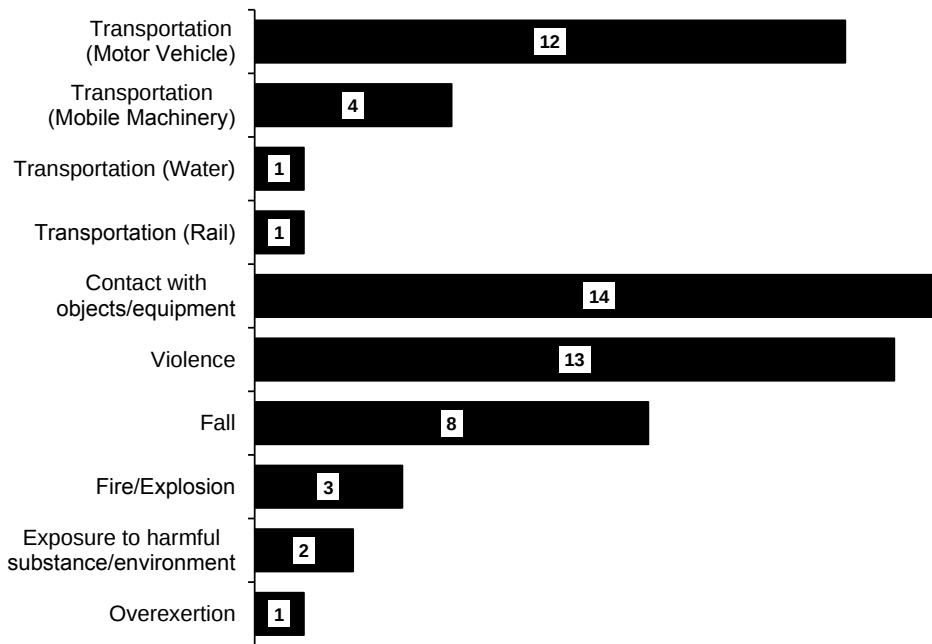


Worker Fatalities in Oregon by Occupation and Event, 2011

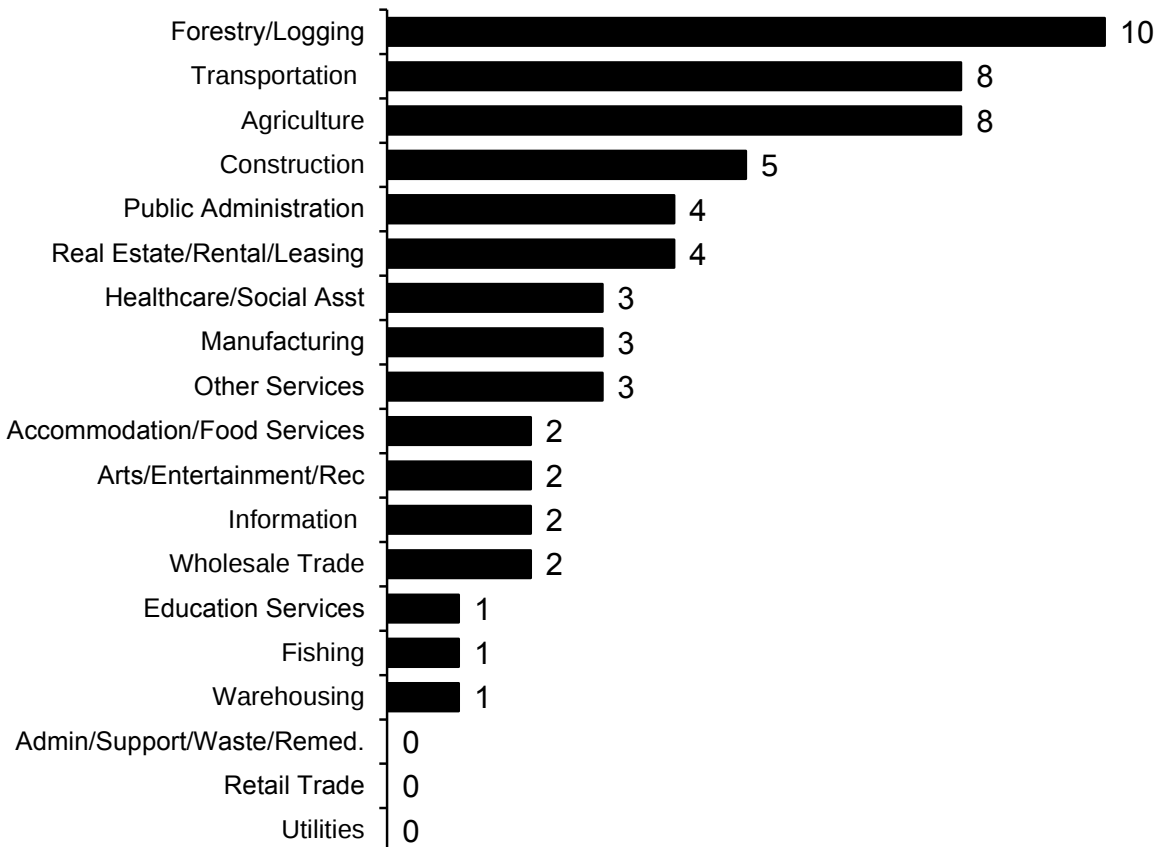


Charts

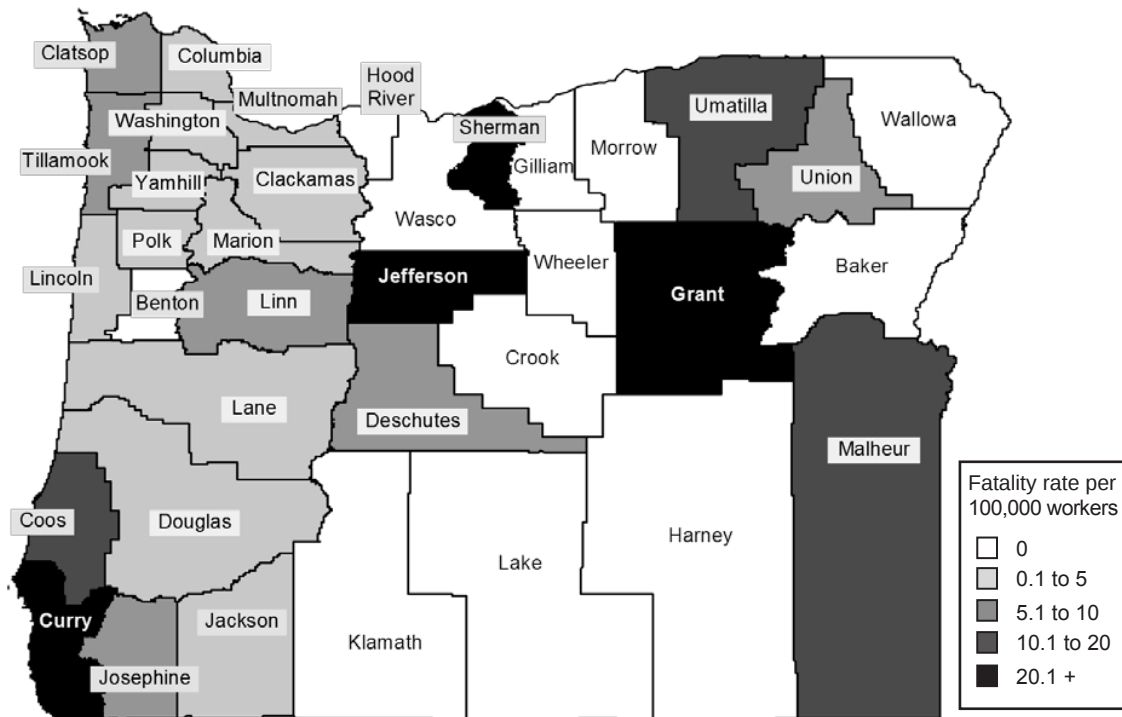
Worker Fatalities by Type of Event, 2011



Worker Fatalities in Oregon by Industry, 2011



Oregon Counties



Oregon Population, Employed Labor Force, and Fatalities by County, 2011

	Total population	Employed labor force	Worker fatalities
OREGON	3,857,625	1,785,401	59
BAKER	16,215	6,724	0
BENTON	85,995	41,752	0
CLACKAMAS	378,480	181,905	4
CLATSOP	37,145	19,019	1
COLUMBIA	49,625	21,683	1
COOS	62,960	25,448	4
CROOK	20,855	7,589	0
CURRY	22,335	8,068	2
DESCHUTES	158,875	69,462	5
DOUGLAS	107,795	39,774	1
GILLIAM	1,880	1,132	0
GRANT	7,450	3,039	1
HARNEY	7,375	2,923	0
HOOD RIVER	22,625	13,304	0
JACKSON	203,950	89,073	4
JEFFERSON	21,845	8,066	2
JOSEPHINE	82,820	30,411	2
KLAMATH	66,580	26,933	0
LAKE	7,885	3,271	0
LANE	353,155	162,811	3
LINCOLN	46,155	20,658	1
LINN	117,340	48,867	3
MALHEUR	31,445	12,037	2
MARION	318,150	140,720	5
MORROW	11,270	5,051	0
MULTNOMAH	741,925	369,121	5
POLK	75,965	35,352	1
SHERMAN	1,765	976	1
TILLAMOOK	25,255	11,650	1
UMATILLA	76,580	36,248	5
UNION	25,980	11,252	1
WALLOWA	6,995	3,326	0
WASCO	25,300	13,187	0
WASHINGTON	536,370	269,929	3
WHEELER	1,435	630	0
YAMHILL	99,850	44,010	1

Sources: Portland State University Population Research Center and BLS Local Area Unemployment Statistics
Retrieved: March 2013

Worker Fatalities

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

2011

**Transportation – Contact – Violence – Falls
Fire/Explosion – Exposure – Overexertion**

Transportation (Motor Vehicle)

<i>Over embankment</i>	A 69-year-old truck driver was killed after the truck he was driving left the roadway and drove off a bridge into a small creek 30 to 40 feet below.
Transportation Transportation	It is unknown why the truck left the roadway. The victim was wearing a safety belt. He died at the scene from internal injuries.
January 27 Jackson OR 2011-09-1	
<i>Tanker explosion</i>	A 54-year-old commercial truck driver was killed after he was involved in a crash and subsequent fire. The victim was driving a truck pulling a tanker loaded with 8,300 gallons of aviation fuel. He was headed uphill on a highway when, for an unknown reason, the truck suddenly traveled onto the shoulder and broke through a guardrail. The truck and trailer rolled 200 feet down an embankment and burst into flames. The victim died in the resulting fire.
Transportation Transportation	
June 28 Jefferson OR 2011-19-1	
<i>Cattle truck</i>	A 54-year-old rancher was killed when the loaded cattle hauler truck he was driving crashed. As the victim was driving toward a road construction zone, he was directed to stop by the flagger, but failed to do so. He then drove into a single lane of oncoming traffic. The cattle hauler truck sideswiped 2 vehicles, crashed into a third car, then overturned onto a fourth car. Several witnesses stated that there was smoke coming from the brakes. It is unknown whether the victim was wearing a safety belt. The victim died at the scene from blunt chest trauma.
Transportation Transportation	
June 8 Union OR 2011-20-1	
<i>Log truck crash</i>	A 40-year-old log truck driver was killed after his truck hit a dirt embankment. He was in the process of hauling a full load of logs to a mill on a US Forest Service road, when his log truck apparently lost control while he was navigating a sharp downhill turn. The truck ran off the road and slammed head-on into an embankment. This caused the restraining chains on the log load to snap, scattering them onto the road. The driver was not wearing a safety belt. The victim died immediately from crushing injuries. Prior to the crash, the victim had been periodically talking on his cell phone. His toxicology screen tested positive for methamphetamine, but it is not possible to determine the degree to which drug use contributed to the incident.
Transportation Transportation	
July 29 Lincoln OR 2011-22-1	

Worker Fatalities – Transportation

<i>Chip truck</i> Transportation Transportation August 12 Coos OR 2011-24-1	A 39-year-old truck driver was killed after his truck and double trailer drove off an embankment. The victim was hauling a 40-foot chip hauler and a 2-foot pup chip hauler. He apparently entered a curve too fast, braked hard, and lost control of the truck. The truck then rolled onto its side and slid across the highway, broke through the guardrail, and rolled down the embankment. The truck came to rest 40 feet down the hillside. Emergency responders noted that the victim was not wearing a safety belt, but it would likely not have saved the driver in this case. The entire cab of the truck was crushed in the incident, and the victim died instantly from severe head trauma.
<i>Boat transport</i> Transportation Transportation August 20 Jackson OR 2011-36-1	A 61-year-old owner of a specialty freight transport business was killed when her pickup truck crashed. At the time of the incident, the victim was towing a 32-foot aluminum boat on an interstate highway when she lost control of her truck on a downgrade. Witnesses reported that the truck began to fishtail. Reports indicated the trailer then separated from the truck, which then rolled several times. Reports indicated the vehicle was traveling at a high rate of speed. She was wearing her safety belt. The victim died from multiple blunt force injuries.
<i>Deer in road</i> Forestry/Logging Logging September 21 Josephine OR 2011-38-1	A 59-year-old logger was killed when the utility truck he was traveling in as a passenger lost control and struck a power pole. The victim and two coworkers were traveling to a worksite when the driver of the truck swerved to miss a deer in the road. The driver lost control of the truck and crashed into a power pole. None of the occupants were wearing safety belts. The victim died at the scene from multiple blunt injuries, but the coworkers survived.
<i>Pizza delivery</i> Accommodation/Food Services Transportation November 14 Deschutes OR 2011-41-1	A 22-year-old pizza delivery driver was killed when his car crossed into the opposing lane of traffic and collided head-on with a pickup truck pulling a trailer. According to the driver of the pickup truck who survived the incident, the victim did not attempt to avoid the crash and drove straight into his truck. The victim was not wearing a safety belt at the time of the crash. The victim was taken to the hospital where he died from an aortic rupture.
<i>Slow truck</i> Information Install/Maintain/Repair October 14 Umatilla OR 2011-44-1	A 36-year-old wireless communications technician was killed when the SUV he was driving crashed into the rear trailer of a slow moving semi-truck. The driver of the semi-truck reported that he was traveling in the right hand lane on the highway at roughly 18 miles per hour when the victim crashed into his trailer. Reports indicate that the victim's airbag deployed, but there was no indication as to whether or not the victim was wearing a safety belt. A post-crash investigation did not find evidence of tire marks from the SUV's brakes. The victim died at the scene of the crash from a neck fracture.

Worker Fatalities – Transportation

<i>Newspaper delivery</i> Information Transportation December 29 Deschutes OR 2011-49-1	A 57-year-old newspaper delivery driver was killed after his SUV crashed into a tree. The victim was delivering newspapers on his daily route using his personal vehicle. The victim was driving through a curve on a roadway that was ice-covered. Apparently, the victim lost control of the vehicle, drove through the curve, and hit a tree. The victim was wearing his safety belt and the car's airbags deployed upon impact with the tree. He died at the scene from chest trauma and a fractured spine.
<i>Ag Manager MVC</i> Agriculture Farm/Ranch October 30 Jackson OR 2011-53-1	A 47-year-old ranch manager was killed when the truck he was driving was struck by an oncoming vehicle. The oncoming vehicle struck the victim's truck head-on when it entered into the victim's lane and caused the truck to roll over. The victim was thrown from the truck. He was not wearing a safety belt. He died at the scene from blunt head trauma.
<i>DHS Volunteer</i> Healthcare/Social Asst Transportation December 30 Deschutes OR 2011-54-1	A 70-year-old social services volunteer was killed when the SUV he was driving crashed into a tree. The victim failed to navigate a curve in the road. After his SUV left the road it struck a tree stump and a large tree and turned onto its passenger side. The decedent was reportedly hung-up on his safety belt, which along with his chest trauma may have prevented him from exiting the SUV. The airbags deployed. The decedent died at the scene from blunt chest trauma.

Worker Fatalities – Transportation

Transportation (Mobile Machinery)

<i>Track hoe off bridge</i>	A 44-year-old logging equipment operator was killed after he drove a log loader off a small railcar bridge. The victim was working alone so there were no witnesses, but apparently one of the loader's tracks got too far over the edge of the bridge, which caused the shovel to fall 20 feet into a creek below. He was operating the equipment in the dark at the beginning of his early morning shift. The victim was found pinned underneath the log loader. He died at the scene from crushing head injuries.
Forestry/Logging Material/Moving	
January 19 Polk OR 2011-03-1	
<i>Run over by tractor</i>	A 55-year-old cattle rancher was killed after he was run over by a tractor. The victim was working alone at the time of the incident, but it appeared as though he had put the tractor in a low gear while he worked on an attached hay trailer feeding cattle in the pasture. As the tractor approached a steep incline, it seems the victim moved from the trailer and tried to get back into the tractor cab. He fell out of the cab, and the rear left tractor tire crushed him. He died at the scene from significant internal injuries.
Agriculture Farm/Ranch	
April 4 Grant OR 2011-13-1	
<i>ATV rollover</i>	A 17-year-old farm worker was killed after he fell off the ATV he was riding through a field. The victim was working on his family's farm, operating combines and changing out irrigation pipes. Apparently, he was riding the ATV back-and-forth to each task at approximately 20 miles per hour when he hit permanent irrigation piping, which caused the ATV to overturn. The ATV rolled onto the victim. He was able to immediately radio a coworker for help. The victim was taken to the hospital where he died several hours later from internal chest and abdominal injuries.
Agriculture Farm/Ranch	
August 20 Marion OR 2011-27-1	
<i>Tractor down ditch</i>	An 88-year-old farmer was killed when the tractor he was operating rolled down a ditch. The victim was driving a tractor, with an attached scoop, removing blackberry bushes that bordered his farmland. He was working alone at the time of the incident, but it appeared as though he had made one pass clearing bushes along the side of the road and was heading back down the path he had already created when the wheels of his tractor went over the edge of a 15-foot embankment, overturned, and pinned him underneath. The victim died at the scene from a fatal head injury.
Agriculture Farm/Ranch	
September 10 Linn OR 2011-37-1	

Worker Fatalities – Transportation

Transportation (Water)

<i>Crab boat wheelhouse</i>	A 68-year-old crab boat captain was killed when the vessel he was operating capsized. The victim was part of a fishing crew of three people that was preparing for the opening of crab season. The boat was roughly three miles out from a bay when it became unstable and began to tilt. Before the crew could determine the problem, the boat was hit by a large wave and tipped it on its side. The two deckhands were able to put on personal flotation devices and swim to a nearby boat where they were pulled onboard. The captain was apparently trapped inside the wheelhouse when the boat fully capsized and he was unable to escape.
Fishing	
Fishing	
December 12	
Coos	
OR 2011-47-1	

Transportation (Rail)

<i>Road grader vs. train</i>	A 63-year-old road maintenance worker was killed when the road grader he was operating was struck by an oncoming train. The victim had just graded a section of a roadway that was near unguarded railroad tracks. According to reports, the victim was observed in the cab standing and bent over looking down toward the left side of the rear tires. According to the train engineer, he sounded his horn as the train approached an intersection near the grader. The grader advanced toward the intersection, momentarily stopped, but then resumed moving forward to cross the tracks in front of the train. The engineer activated the emergency brakes, but still struck the grader at 28 miles an hour and dragged it across the train tracks for roughly 100 feet. The victim was ejected, crushed, and trapped by the steel plate attached to the grader, killing him immediately. There was no report of the victim wearing hearing protection that might have reduced his ability to detect the warning horn from the train at the time of the incident. It was also unclear as to whether or not he was wearing a safety belt at the time of the incident.
Construction	
Construction	
December 15	
Umatilla	
OR 2011-48-1	

Worker Fatalities – Contact

Contact with Objects and Equipment

<i>Keg struck head</i> Wholesale Trade Material/Moving February 10 Multnomah OR 2011-05-1	A 25-year-old night shift, side loader operator was killed when several full beer kegs struck his head. The victim was using a forklift to load kegs from raised pallets in a refrigeration unit onto trucks for distribution. The victim was working alone so there were no witnesses, but it appeared that a shelving unit collapsed after it was struck by the forklift, which caused multiple kegs to drop onto the victim. The victim died at the scene from severe head injuries.
<i>Struck by falling tree</i> Forestry/Logging Logging February 17 Tillamook OR 2011-06-1	A 53-year-old logger was killed after he was struck in the head by a treetop. The victim was felling a tree when it apparently pulled over a smaller adjacent tree. The top of the smaller tree struck the victim in the head. It was estimated to be 5 inches in diameter and 15 pounds. Although the victim was working with a small logging team, he was working alone at the time of the incident. The victim died at the scene from blunt head trauma.
<i>Trail construction</i> Forestry/Logging Forestry February 15 Washington OR 2011-07-1	A 59-year-old owner of a hiking trail construction business was killed after he was struck by a boulder. The victim was working alone in a forest, but based on observations at the scene, it is believed that the victim was standing on the top of a 50-foot tall rock shelf that he had made with the use of explosives. While he was drilling into the rock to place additional explosives, the rock shelf collapsed and the victim fell to the ground. He was crushed by a boulder and died at the scene from head injuries.
<i>Struck by truck axle</i> Transportation Transportation March 3 Sherman OR 2011-08-1	A 48-year-old semi-truck driver was killed after he fell 200 feet down an embankment. The truck driver stopped his truck along the highway shoulder to retrieve a left rear axle and dual wheels that had dislodged from beneath the tractor. A pickup truck that was traveling by the truck driver struck the loose axle, which hit the victim and sent him over the guardrail. The victim died upon impact.
<i>Mechanic crushed by car</i> Other Services Install/Maintain/Repair March 25 Multnomah OR 2011-11-1	A 52-year-old auto mechanic was killed after an SUV fell from the jack stands and crushed him. The mechanic raised the front end of the vehicle and placed jack stands under the front end to inspect the wheel bearings. At the time of the incident, the SUV was running and in gear to make the front axle turn. He then used a "creeper" to get under the vehicle in order to use a mechanic's stethoscope to locate the problem. At this point, the all-wheel drive apparently engaged, which caused the vehicle to fall off the jack stands, and land on top of him. He was taken to the hospital where he died from head injuries within an hour of the incident.

Worker Fatalities – Contact

<i>Struck by wood splinter</i> Manufacturing Production March 16 Clackamas OR 2011-12-1	A 52-year-old sawmill clean-up worker was killed after he was struck in the eye by a wood splinter. The victim was in the process of cleaning up under a chipper feed conveyor, which was running at the time of the incident. He was working alone, but apparently a piece of lumber discharged from the conveyor and struck the victim in the eye. The victim was taken to the hospital where he died 16 days later from a penetrating brain injury. An autopsy revealed that a sliver of wood, recovered from the preorbital tissue of the eye, penetrated the brain and was approximately one inch in length.
<i>Yarder Turner</i> Forestry/Logging Logging August 2 Coos OR 2011-23-1	A 27-year old hook tender on a logging operation was killed when a 25-foot log, with an 8-inch diameter, struck him in the head. After setting chokers, the victim and his coworker cleared the area to a nearby hillside about 32 ft from the yarder. As the yarder pulled the load of logs up toward the landing, the longest choked log struck and picked up a log off the ground and threw it onto the victim. The victim died from head trauma within an hour of the injury.
<i>Oil truck</i> Transportation Transportation August 17 Marion OR 2011-25-1	A 54-year-old truck driver was killed after the semi-truck he was driving rolled over him. The victim parked the truck and attached tanker trailer in a small parking lot for a business complex. He kept the engine running and exited the truck to ask for directions. While getting directions from a business owner inside, the truck began to roll forward. The victim ran out to the truck in an attempt to stop it, but the truck rolled over him in the process. According to one witness, the driver attempted to enter the cab through the passenger side before he fell. The truck ran over the driver, and then stopped after colliding with a car and the side of a business in the complex. A witness who turned off the truck observed that it was in neutral and the parking brakes were not set. The driver died from traumatic chest injuries.
<i>Tree on hill</i> Forestry/Logging Logging April 18 Curry OR 2011-32-1	A 48-year-old tree faller was killed after a snagged tree fell on top of him. The victim was working as an independent contractor cutting trees. He had just felled a large tree on a hillside, which uprooted a rotten tree on its way down. The rotten tree hit the victim from behind and pinned him underneath. He was working alone at the time of the incident. The victim died at the scene from crushing injuries.
<i>Yarder cab</i> Forestry/Logging Logging March 2, 2005 Coos OR 2011-43-1	A 57-year-old former yarder engineer died from pneumonia and sepsis resulting from a logging injury on March 2, 2005. The victim's original injury occurred when the logging crew was in the process of yarding in a turn of logs. As the turn was being yarded to the landing, an out of place guyline failed which unstabilized the yarder and caused it to tip over. Several other guylines then crushed the cab and pinned the victim to the cab. He sustained injuries to his face and chest. The victim's right leg was also severely crushed and was later amputated above the knee. He also suffered a brain injury. The victim lived in the care of his family at their residence for over six years where they helped him manage his disabilities and chronic illnesses. Several weeks prior to his death his health declined more severely, and he was ultimately admitted to the hospital with respiratory failure and sepsis. He died at the hospital.

Worker Fatalities – Contact, Violence

<i>Falling siding</i> Agriculture Farm/Ranch May 23, 2008 Umatilla OR 2011-45-1	A 51-year-old former cattle rancher and row crop farmer died from complications caused by a spinal cord injury that happened on May 23, 2008. The victim's original injury occurred at his farm after a piece of siding fell and struck his neck. The victim sustained an inoperable cervical spine fracture that left him paralyzed. Over the course of three years, his condition gradually deteriorated. He died in a long-term care facility.
<i>Chainsaw kickback</i> Forestry/Logging Forestry November 23 Curry OR 2011-46-1	A 25-year-old forest conservation laborer was killed after the chainsaw he was operating kicked back and cut his throat. At the time of the incident, the victim was cutting trees and limbs from trees already felled. The victim was working alone at the time of the incident, but it appeared as though the chainsaw kicked back and cut his neck and face. He died at the scene from blood loss due to an aortic laceration.
<i>Struck by smaller tree</i> Forestry/Logging Logging December 29 Marion OR 2011-50-1	A 41-year-old logger was killed after he was struck in the back by a falling tree. The victim was working as part of a two person logging crew, cutting alder trees on private logging land. In twenty-minute intervals, each worker would turn off their saw to listen for their partner's saw. The victim's partner performed this safety check, but did not hear his partner's saw. He went to check on the victim and found him face down with a treetop, 12-inch in diameter and 34-foot long, across his back. Apparently, when the victim cut down his last tree, it collided with a nearby tree, which caused the top of that nearby tree to break apart and fall over onto the victim. The victim was conscious when his partner found him, but died on his way to the hospital. He died from head and chest trauma.
<i>Old logging injury</i> Forestry/Logging Logging January 11, 1967 Deschutes OR 2011-56-1	A 63-year-old former logger died from complications of a traumatic brain injury that was caused by a logging accident on January 1, 1967. The original injury occurred when the victim was driving a skidder in a logging operation and a tree fell on him. He was in a coma for 90 days after the incident and in a long-term care facility for the rest of his life. The victim died in the long-term care facility. Medical reports indicated "failure to thrive" because of his traumatic brain injury.

Violence

<i>Bouncer homicide</i> Accommodation/Food Services Protective Services January 1 Multnomah OR 2011-01-1	A 32-year-old bouncer at a nightclub was killed after he was shot in the chest outside the club where he worked. The victim and another employee escorted a group of combative patrons outside. Once outside, an altercation took place between some of the bouncers and some of the patrons. Gunshots were fired, and the victim was hit. The victim was taken to the hospital where he died approximately 4 hours later.
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Worker Fatalities – Violence

Violence

<i>Police chief homicide</i> Public Administration Protective Services January 5 Columbia OR 2011-02-1	A 55-year-old city police chief was killed when he was shot in the head while attempting to stop a car burglary. The victim received a report regarding an auto theft. When the victim confronted the suspect at the scene of the crime, the suspect began to hit the police chief in the face and head, knocking him unconscious. The suspect then withdrew the victim's gun from its holster and shot him once in the head. The victim died at the scene.
<i>Cattle stampede</i> Wholesale Trade Farm/Ranch January 29 Lane OR 2011-04-1	A 77-year-old cattle rancher was killed after a cow struck him. The victim was at a cattle auction where 3 cows escaped. The cows were running loose in the event parking lot. The victim and others began to wave their arms to turn the cows back in order to prevent them from running onto the highway. As the victim began to run away, one cow charged toward him. The cow struck him on the hip and threw him 10 feet. The victim landed headfirst onto the pavement. He was taken to the hospital where he died a day later due to multiple blunt force injuries.
<i>Police chase</i> Public Administration Protective services April 22 Lane OR 2011-14-1	A 43-year-old police officer was shot and killed while attempting to stop a motorist for violating a traffic law. The police officer attempted to stop the motorist, who had been following the officer too closely from behind. The motorist refused to pull over and led the officer on a high-speed pursuit. The motorist became blocked by traffic at a red street light. The officer pulled alongside the car, dismounted his motorcycle, and signaled for the motorist to pull over. The motorist then shot the officer in his chest, just above his protective vest. The victim was taken to the hospital where he died within a half-hour of the incident from a gunshot wound to the chest.
<i>Salon homicide</i> Other Services Personal Care/Services May 28 Clackamas OR 2011-18-1	A 54-year-old salon owner was found dead in the salon she owned. She had been beaten, strangled, and shot in the back. According to news reports published at the time of this printing, the victim's husband was formally charged with her murder, along with two other suspects.
<i>Shopping mall suicide</i> Real Estate/Rental/ Leasing Management March 5 Jackson OR 2011-31-1	A 65-year-old owner of a commercial real estate property died from a self-inflicted gunshot wound to the head. The victim was experiencing financial difficulties. He had expressed suicidal thoughts to family before his suicide. The victim shot himself inside his office at the shopping complex he owned.

Worker Fatalities – Violence

<i>Conservation suicide</i> Healthcare/Social Asst Building/Grounds/Maint July 13 Clackamas OR 2011-33-1	A 36-year-old laborer at a non-profit organization died after he hung himself from a rafter in a storage shed at his place of work. He had a long history of alcohol abuse, and had expressed suicidal thoughts and plans for his death to family before his suicide.
<i>Body shop suicide</i> Real Estate/Rental/ Leasing Install/Maintain/Repair August 9 Multnomah OR 2011-34-1	A 43-year-old body shop technician at an industrial vehicle repair business died from a self-inflicted gunshot wound to the head. The victim had recently returned to work after taking a two-month leave of absence for depression. On the morning of the event, the victim was talking to his manager about his concern about possibly being fired for recently fighting with coworkers. His manager expressed that he was in no danger of being fired and conveyed his support for assisting the victim with his emotional issues. About an hour after speaking with his manager, the victim walked outside, to the rear of the body shop, and shot himself. The victim's family confirmed the deceased had a long history of suicidal thoughts and suicide attempts.
<i>Horse trainer</i> Arts/Entertainment/Rec Personal Care/Services August 11 Multnomah OR 2011-42-1	A 62-year-old trainer/co-owner of a racehorse was killed after she was kicked in the face by a horse. On the day of the incident, the victim visited boarding stables to care for and exercise her horse. As she was leading her horse to a hot walker, a device used to cool a horse down after exercise, another horse broke free from the device and kicked the victim in the head. She died at the scene within minutes due to head trauma.
<i>Roadside help</i> Public Administration Protective Services November 28 Umatilla OR 2011-51-1	A 42-year-old correctional facility officer was killed after he stopped along the highway to assist a person in a stranded vehicle. The victim was in uniform and on his way to work at a state prison. As the victim approached the vehicle, the motorist lunged toward and stabbed the victim multiple times in the chest and neck. The perpetrator stole the victim's truck and left the victim in the middle of the road. He was found by passing motorists who called 911. The victim was taken to the hospital where he died several hours later from his stab wounds.
<i>Landlord homicide</i> Real Estate/Rental/ Leasing Management June 29 Linn OR 2011-58-1	A 49-year-old property owner was killed when the tenant he rented a room to shot him in the back of the head. After the shooting, the tenant called 9-1-1 and she was taken into custody immediately. The assailant was a friend of the family's. It is unclear as to why she shot the victim. She pleaded guilty to manslaughter.
<i>Struck by bull</i> Agriculture Management July 25 Jefferson OR 2011-59-1	A 54-year-old owner and operator of a feedlot was killed when he was knocked over by a bull. As the victim and his son were moving cattle, the son opened the gate for the bull. The victim was standing in the runway when the bull entered it and pushed him against the steel fence rail. The victim then knocked him to the ground. The bull weighed approximately 1,500 pounds. The victim was taken to the hospital where he died the next day from an anoxic brain injury due to blunt closed head trauma.

Worker Fatalities – Violence, Falls

Violence

Plumber homicide

Construction
Management

December 30
Umatilla
OR 2011-60-1

A 58-year-old owner and operator of a plumbing business was shot and killed by an assailant in his home office. According to news reports published at the time of this printing, the assailant was holding a woman and child captive. Reportedly, the assailant shot the victim because he believed the victim had helped the woman and child escape.

Falls

Plumber fall

Construction
Install/Maintain/Repair

June 21
Marion
OR 2011-21-1

A 65-year-old plumber was killed after he fell 10 to 15 feet off a ladder onto his head. The victim was in the process of installing a compressor in a refrigeration unit on top of an approximately 16-foot high roof. He was working with a coworker in the back storage area of a retail shop. However, the coworker had stepped away and found the victim had fallen when he returned. The victim was taken to the hospital where he died 3 and half hours later from head injuries.

Fall through skylight

Warehousing
Install/Maintain/Repair

August 25
Marion
OR 2011-28-1

A 59-year-old maintenance technician at a refrigerated warehouse was killed after he fell 27 feet through an open skylight. The victim was working on the roof labeling pipes when he fell through the skylight. The skylight measured 22 inches wide and 8 feet long and did not have skylight screen or fixed railing barrier. The victim was working alone at the time of the incident, so it is unknown exactly how the victim fell. However, smudges on the inner walls of the skylight indicate he likely was backing up and fell backward through the skylight. He was not wearing any fall protection. The victim died from chest trauma. The victim worked for this employer for 31 years and had returned to work 3 days before the incident after being off duty for several weeks.

Fall off truck bed

Manufacturing
Transportation

June 14
Lane
OR 2011-35-1

A 57-year-old truck driver died from complications following a surgery to repair a broken femur caused by a fall at work that occurred ten days prior. On the day of the incident, the victim was in the process of securing a load of large concrete pipes onto a flatbed truck to deliver the next day, when he jumped up onto the truck bed to grab a tie-down chain, misjudged his clearance, and stepped off the edge of the deck. The victim then fell to the ground, landed on his hip, and broke his femur. He had only been working for two weeks with his employer at the time of the incident. He was admitted for surgery two days after his fall and released from the hospital three days later. The victim's condition improved while at home, but then worsened the fourth day into his recovery. He went to the Emergency Department with complaints of severe abdominal pain and vomiting. He died several hours later from multiple organ failure, which was caused by a postoperative bowel obstruction.

Worker Fatalities – Falls

<i>Dump truck fall</i> Construction Transportation September 27 Douglas OR 2011-39-1	A 79-year-old dump truck driver was killed after he fell 6 feet from a trailer. The victim was hauling a front-end loader on a trailer when he and another dump truck ahead of him drove around a sharp “switchback” corner on a steep incline. The dump truck the victim was driving lost traction, spun out, and then slid off the road. The driver of the other truck attempted to pull the victim's dump truck back onto the road. When the attempt failed, both drivers decided to unload the front-end loader from the trailer and use it to pull the dump truck back onto the road. As the victim opened the door of the loader, he slipped, and fell to the ground. The victim died at the scene from a fatal head injury.
<i>Fall from horse</i> Educational Services Education/Training September 28 Malheur OR 2011-40-1	A 43-year-old instructor at a community college was killed after he fell off a horse. The victim was teaching a rodeo class, when he was bucked off the horse and landed on his head. The victim was taken to a hospital where he died several hours later from his injuries.
<i>Fractured knee cap</i> Healthcare/Social Asst Comm/Social Services October 3 Washington OR 2011-52-1	A 31-year-old social worker died from a pulmonary embolism. Approximately one month before the victim's death, she sustained a fractured kneecap after she slipped and fell on the floor while at work. The subject was walking with a brace and was reportedly doing well. On the day of her death, she was sleeping at home and awoke with severe shortness of breath. An ambulance was called and she went into cardiac arrest while en route to the hospital. She was transferred to the ICU and died a short time later. Medical reports indicated the pulmonary embolism was most likely caused by a blood clot associated with the traumatic knee fracture.
<i>40-foot fall</i> Construction Construction December 8, 1965 Marion OR 2011-55-1	A 77-year-old former construction worker died from complications of a head injury that was caused from a fall in December 1965. The victim's original injury occurred when he reportedly fell approximately 40 feet from a platform. The victim died in an adult foster home. The medical examiner's report indicated that his death was related to the original work injury.
<i>Surgery complication</i> Arts/Entertainment/Rec Food Prep & Related August 11 Deschutes OR 2011-57-1	A 63-year-old server died from complications from surgery for a knee injury that happened on August 11, 2010. She sustained a torn meniscus after tripping on the knap of new carpeting at her workplace. The victim died in the hospital from a pulmonary embolism. Medical reports indicated that the pulmonary embolism was a complication of the surgery for the knee injury.

Worker Fatalities – Fire/Explosion

Fire and Explosion

Accumulator explosion A 61-year-old millwright was killed after an explosion at a lumber mill. The victim was working with two other millwrights who were attempting to disassemble a gas-charged hydraulic accumulator. The victim was standing directly in front of the accumulator while he and two coworkers tried to remove its end-cap. Pressurized nitrogen gas in the accumulator had not been released, which caused the cap to unexpectedly blow off. It ricocheted off nearby shelving and struck the victim in the pelvis. The cap measured 8 inches in diameter and was approximately 3 to 4 inches thick. The victim died at the scene from severe, rapid blood loss.

Manufacturing
Install/Maintain/Repair

May 11
Washington
OR 2011-16-1

Plasma cutter A 31-year-old heavy equipment diesel technician was killed after he was fatally burned during a welding explosion. The victim was using a plasma cutter to cut the top off a 55-gallon drum, when the drum exploded and the contents of the drum splashed onto the victim. His clothes then caught on fire. The victim sustained burns on over 50% of his body. He was taken to a hospital burn unit where he died 36 hours later.

Other Services
Install/Maintain/Repair

May 23
Clatsop
OR 2011-17-1

Field fire An 87-year-old farmer was killed in a fire that broke out in the field where he was working on a farm that he had leased for many years. Apparently, he was packing gopher holes with sulfur and injecting flames into the holes with a torch. The victim was working alone, so it is unknown exactly how the fire broke out and became uncontained. Emergency responders discovered the victim while they were attempting to stop the spreading fire. The victim sustained third-degree burns on 45% of his body. The victim was taken to a hospital where he died later the same day.

Agriculture
Farm/Ranch

August 20
Yamhill
OR 2011-26-1

Worker Fatalities – Exposure, Overexertion

Exposure to Harmful Substance or Environment

Irrigation canal

Agriculture
Farm/Ranch

July 16
Malheur
OR 2011-29-1

A 55-year-old farmer was killed after he drowned in an irrigation canal. At the time of the incident, the victim by himself was checking for broken lines in a drip irrigation system. When he did not appear for his usual lunch break, his family went to check on him and found him face down in a small eddy in the irrigation canal. On-scene investigators did not find evidence for an obvious point of entry marking where the victim slipped or fell into the canal.

Transformer
Real Estate/Rental/
Leasing
Construction

July 12
Josephine
OR 2011-30-1

A 60-year-old electrician was killed when he was electrocuted while removing a transformer from a power pole. The victim shut off the main power and was in the process of testing three transformers to make sure they did not have residual power. The victim, lifted by a crane, successfully removed two of the three transformers. He was checking the third when he was electrocuted and caught on fire. The victim died immediately.

Bodily reaction and overexertion

Tech heart attack

Public Administration
Healthcare Practice/
Tech

March 22
Linn
OR 2011-15-1

A 57-year-old mental health technician died from a heart attack. The technician was on a work outing with a client when they got into an altercation. Moments after the fight ended, the technician collapsed and died at the scene from a heart attack. While heart attack deaths at work are normally excluded from occupational fatality counts, this incident was included because an acute traumatic altercation at work triggered the fatal event. The victim was a smoker and diagnosed with high blood pressure.

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 INCIDENTS

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” 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_oiccs_2_4.pdf.

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Oregon Fatality Assessment and Control Evaluation (OR-FACE) is a project of the Center for Research on Occupational and Environmental Toxicology (CROET) 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 #2U60OH008472-06) through the Occupational Public Health Program (OPHP) of the Public Health Division of the Oregon Health Authority.

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your comments.**

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.

About the Center for Research on Occupational and Environmental Toxicology at Oregon Health & Science University

The Center for Research on Occupational and Environmental Toxicology is dedicated to health and safety in the workforce. CROET's mission is to promote health, and prevent disease and disability among working Oregonians and their families during their employment years and through retirement. CROET 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 healthcare, 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 September 2013

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