FACE
Definitions

The Oregon Fatality Assessment and Control Evaluation (OR-FACE) program investigates work-related fatalities that are caused by a traumatic injury and that occurred within Oregon.

A location within Oregon means the incident, or some portion of the event or exposure, occurred 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 occurred (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.

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
- NIOSH National Institute for Occupational Safety and Health
- NTSB National Transportation Safety Board
- NVDRS National Violent Death Reporting System
- OHA Oregon Health Authority
- OIICS Occupational Injury and Illness Classification System Oregon
- OSHA Occupational Safety and Health Administration
- SOC Standard Occupational Classification
- DCBS Department of Consumer and Business Services
- OERS Oregon Emergency Response System

In Scope

- Self-employed, family, or volunteer workers, exposed to the same work hazards and performed the same duties or functions as paid employees, and that meet the work-relationship criteria.
- Suicides and homicides that occurred at a worksite (included in OR-FACE scope since 2011).
- Fatal events or exposures that occurred when a person was in travel status, if the travel was for work purposes, or was 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 occurred during a person’s recreational activities that are not required by the employer.
- Fatal events or exposures that occurred during a person’s commute to or from work.
- Fatal events or exposures of those in a Military occupation. OR-FACE erroneously included some of these deaths in previous reporting years.
- A fatal event that was solely the result of exposure to infectious disease.

2019 ANNUAL REPORT
Oregon Fatality Assessment and Control Evaluation

This report is dedicated to the people 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 Institute of Occupational Health Sciences
Oregon Health & Science University

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INTRODUCTION

In 2019, OR-FACE recorded 53 fatal occupational incidents resulting in worker deaths, as well as three incidents that could not be determined due to insufficient information (e.g., natural causes vs. a work-related incident, the decedent doing a work-related task, etc.). The number represents a rate of 2.61 fatalities per 100,000 employed workers in the civilian labor force in Oregon. The national worker fatality rate in 2019 was 3.5 per 100,000 full-time equivalent workers.

The following notable trends occurred in 2019

» The agriculture industry had the highest number of fatalities, followed by construction and transportation. These three industries have been among the top four industries for fatalities in each year in the past decade (see pg. 13).

» For events, fatal cases from transportation (motor vehicle) exceeded all other events, followed by slip/strips/falls, contact with objects, and incidents involving equipment (non-motor vehicle). Motor vehicle incidents have the highest number of cumulative events through 2019 (see pg. 14).

REPORT HIGHLIGHTS

OR-FACE conducts surveillance, investigation, assessment, and outreach related to traumatic occupational fatalities in Oregon (see pg. 5–6).

OR-FACE published 5 investigation reports, 4 blogs, and 1 annual report (see pg. 7–8).

Characteristics of fatal events and the workers involved are quantified in charts (see pg. 9–17).

Abstracts provide a brief description and contributing factors of each incident (see pg. 18–31).

About OR-FACE, online resources and provide feedback (see pg. 31 and back cover).
CORE ACTIVITIES

ASSESSMENT

When fatalities are identified as FACE cases, sufficient data are collected about each incident to analyze and develop case abstracts. Assessment data sources for each case include Oregon OSHA investigation reports, medical examiner reports, police reports, 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), as well as by demographic and other variables, such as the specific source or setting of the injury. Incident abstracts are created to explain each fatality with the aim of preventing similar fatal incidents in the future.

NOTIFICATIONS | Timing of first notification following incident

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<thead>
<tr>
<th></th>
<th>DAYS</th>
<th>MONTHS</th>
<th></th>
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<tr>
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<td>1–3</td>
<td>3–6</td>
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<tr>
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<tr>
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<tr>
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<td>36</td>
<td>14</td>
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</tbody>
</table>

The sum of notifications may not equal 100% due to rounding.
INVESTIGATION

In-depth investigations of selected cases are conducted by an OR-FACE fatality investigator/outreach specialist. Investigations may be completed independently, in collaboration with OR-OSHA investigators, or with contractors with relevant industry-specific expertise, as needed. Cases are selected based on industries and occupations highly representative of Oregon, NIOSH areas of focus, and/or areas where there is a perceived gap in knowledge.

Investigation reports are reviewed by professional safety experts and NIOSH prior to publication. Investigation reports seek to draw urgent attention to the root causes of fatal workplace incidents, and to provide recommendations for preventing similar fatal injuries.

Five investigation reports were published in 2019 (see page 8).

PRESENTATION CITATIONS


- Discussion with Washington University School of Medicine (Nov. 2019). “Using mobile phone marketing technology to increase safety meeting frequency among small residential construction companies: Final Report.”


OUTREACH AND DOCUMENT DISTRIBUTION

| 390 | OR-FACE INVESTIGATION BROCHURE
|-----|-----------------------------
|     | to OR-OSHA, Mid-Oregon Construction Safety Summit, Oregon Governor’s Occupational Safety & Health (GOSH) Conference

| 6   | FATALITY INVESTIGATION REPORT: VINEYARD WORKER KILLED IN FALL FROM TRAILER
|-----|--------------------------------------------------------------------------
|     | to Orchard & Vineyard Supply

| 70  | "FALLERS LOGGING SAFETY" BOOKLET
|-----|--------------------------------
|     | to The Cutting Garden, NW Logging Supply

<table>
<thead>
<tr>
<th>15 ENGLISH</th>
<th>12 SPANISH</th>
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</thead>
<tbody>
<tr>
<td>35 ENGLISH</td>
<td>10 SPANISH</td>
</tr>
</tbody>
</table>
|             | CAN YOU IDENTIFY HAZARDS ON YOUR FARM OR RANCH?
|             | to OR-OSHA, Orchard & Vineyard Supply

| 16   | FATALITY INVESTIGATION REPORT: TRENCH COLLAPSE
|-----|--------------------------------------------------------------------------
|     | to Mid-Oregon Construction Safety Summit

<table>
<thead>
<tr>
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<th>30 SPANISH</th>
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</thead>
</table>
|             | WORKING SAFELY WITH PESTICIDES IN AGRICULTURAL SETTINGS
|             | to Orchard & Vineyard Supply

| 10   | YARDING & LOADING BOOK
|-----|--------------------------
|     | to The Cutting Garden

<table>
<thead>
<tr>
<th>30 ENGLISH</th>
<th>30 SPANISH</th>
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|             | WASHING PESTICIDE WORK CLOTHING
|             | to Orchard & Vineyard Supply

| 20   | NORTHWEST OCCUPATIONAL HEALTH CONFERENCE
|-----|------------------------------------------
|     | to SafeBuild Alliance Safety Week

6 | 2019 - OCCUPATIONAL FATALITIES IN OREGON ANNUAL REPORT
PUBLICATIONS

OR-FACE publications 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 confidential under Oregon law (ORS 413.196).

Find published presentations, safety booklets, reports, and other resources at the OR-FACE website or scan the provided QR code. New reports are published regularly.

www.ohsu.edu/or-face
BLOG POSTS

OR-FACE staff regularly publish contributions to the “Oregon and the Workplace” blog, which is part of the social media outreach of the Oregon Institute of Occupational Health Sciences.

Once a blog is published, it is shared through Twitter (1107 followers), Facebook (416 likes), and the Institute newsletter (2100 subscribers).

OR-FACE contributed four blogs in 2019.

INVESTIGATIONS

Five investigation reports were published in 2019:

- Construction worker killed when trench collapsed  
  (OR 2016-16-1)  
  Read the report

- Farm mechanic died after torch cutting explosion  
  (OR 2017-7-1)  
  Read the report

- Rubber equipment operator died after his head was caught between bars of operating machinery  
  (OR 2018-29-1)  
  Read the report

- Maintenance mechanic crushed working inside of a vertical storage machine  
  (OR 2017-22-1)  
  Read the report

- Skid Steer Operator Crushed While Attempting to Remove Attachment  
  (OR 2018-08-1)  
  Read the report

ANNUAL REPORT

OR-FACE published its 2016 Annual Report during the 2019 calendar year. There were 57 recorded fatalities in that report, with an overall rate of 2.92 per 100,000 employees.
In the sections of 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/Forestry/Fishing/Hunting (code 11) is separated into sub codes: Agriculture (codes 111, 112), forestry/logging (code 113); and fishing/hunting/trapping (code 114).

For occupation (SOC), Farming/Fishing/Forestry (code 45) is split into sub codes: Agriculture (code 45 2000), fishing and hunting (code 45 3000), forest/conservation (code 45 4010); and logging (code 45 4020).

For event (OIIICS), Transportation is divided into the following codes: Aircraft (code 21), rail vehicle (code 22), animal/other non-motorized vehicle (code 23), pedestrian vehicular (code 24); and water vehicle (code 25).

For descriptive purposes in response to industry interest in Oregon, OR-FACE further delineates motorized land vehicle events (codes 26 and 27) into motor vehicle and mobile machinery.

Oregon Employment Rate vs. Occupational Fatalities
The bars below reflect fatalities; the line reflects employment rate.

Occupational Fatalities in Oregon by Age Compared to Oregon Age Distribution of Labor Force, 2018
The bars below reflect fatal cases by age; the line reflects age distribution of labor force.

Demographics of Occupational Fatalities (53 total)

Race
- Asian | 4%
- Unknown | 19%
- White | 77%

Civilian Labor Force in Oregon (BLS, 2019)

Race
- Asian | 6%
- Unknown | 8%
- White | 86%

Ethnicity
- Hispanic/Latino | 15%
- Not Hispanic/Latino | 68%
- Unknown | 17%

Ethnicity
- Hispanic/Latino | 12.5%
- Unknown | 87.5%

Sex
- Female | 13%
- Male | 87%

Sex
- Female | 47%
- Male | 53%
Incidents by Season

- Spring: 122 fatalities (19 FATALITIES 2009–2018, 10 FATALITIES 2019)
- Summer: 123 fatalities (10 FATALITIES 2009–2018, 10 FATALITIES 2019)

Note: Fatalities without a known time of incident are not included in the charts above.

Incidents by Month

- February: 36 fatalities (3 FATALITIES 2009–2018, 4 FATALITIES 2019)
- April: 34 fatalities (7 FATALITIES 2009–2018, 5 FATALITIES 2019)
- June: 48 fatalities (1 FATALITIES 2009–2018, 3 FATALITIES 2019)
- August: 45 fatalities (3 FATALITIES 2009–2018, 4 FATALITIES 2019)
- December: 43 fatalities (2 FATALITIES 2009–2018, 3 FATALITIES 2019)

Incidents by Day of Week

- Sunday: 42 fatalities (1 FATALITIES 2009–2018, 6 FATALITIES 2019)
- Thursday: 83 fatalities (10 FATALITIES 2009–2018, 8 FATALITIES 2019)
- Friday: 81 fatalities (10 FATALITIES 2009–2018, 10 FATALITIES 2019)

Incidents by Time of Day

- 00:00–02:00: 11 fatalities (1 FATALITIES 2009–2018, 2 FATALITIES 2019)
- 02:00–04:00: 12 fatalities (2 FATALITIES 2009–2018, 4 FATALITIES 2019)
- 04:00–06:00: 16 fatalities (2 FATALITIES 2009–2018, 4 FATALITIES 2019)
- 06:00–08:00: 34 fatalities (1 FATALITIES 2009–2018, 5 FATALITIES 2019)
- 08:00–10:00: 77 fatalities (6 FATALITIES 2009–2018, 7 FATALITIES 2019)
- 10:00–12:00: 64 fatalities (8 FATALITIES 2009–2018, 3 FATALITIES 2019)
- 12:00–14:00: 75 fatalities (7 FATALITIES 2009–2018, 8 FATALITIES 2019)
- 14:00–16:00: 62 fatalities (8 FATALITIES 2009–2018, 3 FATALITIES 2019)
- 16:00–18:00: 47 fatalities (3 FATALITIES 2009–2018, 4 FATALITIES 2019)
- 18:00–20:00: 19 fatalities (3 FATALITIES 2009–2018, 2 FATALITIES 2019)
- 20:00–22:00: 14 fatalities (4 FATALITIES 2009–2018, 2 FATALITIES 2019)
- 22:00–24:00: 17 fatalities (1 FATALITIES 2009–2018, 3 FATALITIES 2019)

Note: Fatalities without a known time of incident are not included in the charts above.
Fatalities by Occupation, 2009–2019

- Transportation and Material Moving
- Farming, Fishing, and Forestry
- Construction and Extraction
- Installation, Maintenance, and Repair
- Management
- Protective Service
- Production
- Building and Grounds Cleaning and Maintenance
- Sales and Related
- Arts, Design, Entertainment, Sports, and Media
- Personal Care and Service
- Community and Social Services
- Education, Training, and Library
- Office and Administrative Support
- Food Preparation and Serving Related
- Business and Financial Operations
- Healthcare Practitioners and Technical
- Architecture and Engineering
- Life, Physical, and Social Science
- Healthcare Support Occupations
- Unknown
- Legal
- Computer and Mathematical

Fatalities by Occupation, 2019

- Transportation and Material Moving
- Farming, Fishing, and Forestry
- Construction and Extraction
- Installation, Maintenance, and Repair
- Arts, Design, Entertainment, Sports, and Media
- Healthcare Support Occupations
- Management
- Protective Service
- Production
- Building and Grounds Cleaning and Maintenance
- Sales and Related
- Community and Social Services
- Office and Administrative Support

Long-term reporting years for occupation were limited to 10-years due to the ability to display industries with low counts.
### Fatalities by Industry, 2009–2019

- Agriculture, Forestry, Fishing and Hunting
- Construction
- Other Services (except Public Administration)
- Manufacturing
- Admin., Waste Management, and Remediation
- Public Administration
- Arts, Entertainment, and Recreation
- Health Care and Social Assistance
- Retail Trade
- Wholesale Trade
- Real Estate and Rental and Leasing
- Educational Services
- Accommodation and Food Services
- Information
- Professional, Scientific, and Technical Services
- Utilities
- Mining, Quarrying, and Oil and Gas Extraction
- Finance and Insurance
- Unknown

Long-term reporting years for occupation were limited to 10-years due to the ability to display industries with low counts.

<table>
<thead>
<tr>
<th>Fatalities 2009–2018</th>
<th>Fatalities 2019</th>
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</thead>
<tbody>
<tr>
<td>180</td>
<td>170</td>
</tr>
<tr>
<td>160</td>
<td>150</td>
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<tr>
<td>140</td>
<td>130</td>
</tr>
<tr>
<td>120</td>
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<td>100</td>
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<td>80</td>
<td>70</td>
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<td>60</td>
<td>50</td>
</tr>
<tr>
<td>40</td>
<td>30</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
</tr>
</tbody>
</table>

Fatalities by Industry, 2019

- Agriculture, Forestry, Fishing and Hunting
- Construction
- Transportation and Warehousing
- Arts, Entertainment, and Recreation
- Manufacturing
- Health Care and Social Assistance
- Public Administration
- Retail Trade
- Wholesale Trade
- Educational Services
- Accommodation and Food Services
- Admin., Waste Management, and Remediation
- Unknown

Long-term reporting years for occupation were limited to 10-years due to the ability to display industries with low counts.
## Fatalities by Event, 2009–2019

<table>
<thead>
<tr>
<th>Event</th>
<th>Fatalities 2009–2018</th>
<th>Fatalities 2019</th>
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</thead>
<tbody>
<tr>
<td>Transportation Incidents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contact With Objects and Equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violence and Other Injuries by Person or Animals</td>
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<td></td>
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<tr>
<td>Slips, Trips, and Falls</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exposure to Harmful Substances or Environments</td>
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<td></td>
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<tr>
<td>Fires/Explosions</td>
<td></td>
<td></td>
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<tr>
<td>Overexertion and Bodily Reaction</td>
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<tr>
<td>Unknown</td>
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Long-term reporting years for occupation were limited to 10-years due to the ability to display industries with low counts.

Fatalities by Event, 2019

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<td>Transportation Incidents</td>
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<td>Slips, Trips, and Falls</td>
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<td>Contact With Objects and Equipment</td>
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<td>Violence and Other Injuries by Person or Animals</td>
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<tr>
<td>Exposure to Harmful Substances or Environments</td>
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<tr>
<td>Fires/Explosions</td>
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<tr>
<td>Overexertion and Bodily Reaction</td>
<td>8</td>
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<tr>
<td>Unknown</td>
<td>6</td>
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</tbody>
</table>
Fatalities by Select Industries, 2009–2019

**Agriculture**
- Contact with Objects and Equipment
- Transportation (Motor Vehicle)
- Transportation (Water)
- Exposure*
- Fall
- Violence
- Transportation (Air, Animal, Mobile Machinery, Pedestrian, and other)
- Fires/Explosions
- Unknown

**Construction**
- Slips, Trips, and Falls
- Contact with Objects and Equipment
- Exposure*
- Transportation (Roadway)
- Transportation (Pedestrian)
- Violence
- Transportation (Non-roadway)
- Transportation (Air, Rail, and Mobile Machinery)
- Overexertion

**Forestry And Logging**
- Contact with Objects and Equipment
- Transportation (Roadway)
- Transportation (Non-roadway)
- Slips, Trips, and Falls
- Exposure*
- Violence
- Transportation (Pedestrian)

**Transportation**
- Transportation (Roadway)
- Contact with Objects and Equipment
- Transportation (Pedestrian)
- Violence
- Exposure*
- Slips, Trips, and Falls
- Transportation (Air)
- Fires/Explosion
- Transportation (Non-roadway)

* Exposure To Harmful Substances and Environments
The employed Oregon labor force (as reported by BLS) is used as a denominator for the fatality rate. The figure is adjusted to represent a rate of 100,000 full-time employees. Thus, the 10-year fatality rate is calculated by adding up all fatalities from every year, multiplying by 100,000, and then divided by the summed Oregon labor force across the 10 years.
<table>
<thead>
<tr>
<th>County</th>
<th>Total Pop.</th>
<th>Labor Force</th>
<th>Fatalities 2019</th>
<th>Fatalities 2009–2018</th>
<th>Fatalities 2019</th>
<th>10-Year Rate per 100,000 Workers</th>
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<tbody>
<tr>
<td>Douglas</td>
<td>112,250</td>
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<td>Hood River</td>
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<td>Jefferson</td>
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<td>9,667</td>
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<td>Josephine</td>
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<td>26,500</td>
<td>11,465</td>
<td>6</td>
<td>0</td>
<td>5.12</td>
<td></td>
</tr>
<tr>
<td>Umatilla</td>
<td>81,160</td>
<td>35,058</td>
<td>31</td>
<td>2</td>
<td>8.98</td>
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<tr>
<td>Union</td>
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<td>11,450</td>
<td>7</td>
<td>0</td>
<td>5.76</td>
<td></td>
</tr>
<tr>
<td>Wallowa</td>
<td>7,150</td>
<td>3,243</td>
<td>2</td>
<td>0</td>
<td>6.03</td>
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<tr>
<td>Wasco</td>
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<td>12,888</td>
<td>7</td>
<td>0</td>
<td>5.05</td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>613,410</td>
<td>315,863</td>
<td>32</td>
<td>5</td>
<td>1.18</td>
<td></td>
</tr>
<tr>
<td>Wheeler</td>
<td>1,440</td>
<td>683</td>
<td>1</td>
<td>0</td>
<td>14.05</td>
<td></td>
</tr>
<tr>
<td>Yamhill</td>
<td>108,060</td>
<td>52,829</td>
<td>11</td>
<td>3</td>
<td>2.71</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

ABSTRACTS

Fatal occupational incidents in Oregon by type of event in 2019

CONTACT WITH OBJECTS AND EQUIPMENT

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SEASON</th>
<th>INDUSTRY</th>
<th>COUNTY</th>
<th>OCCUPATION</th>
<th>OR-FACE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Struck by log</td>
<td>Spring</td>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>Polk</td>
<td>Farming, Fishing, and Forestry Occupations</td>
<td>OR 2019-11-1</td>
</tr>
</tbody>
</table>

A 33-year-old rigging slinger died from a blunt head injury after his head was struck by a suspended log. The deceased was working with a four-person rigging crew who were setting chokers (wire, rope, or chain nooses used to attach logs to a line) approximately 600-feet to 700-feet from the landing. The trees were choked at their tops, and after the rigging was moved, the deceased was struck by the log.

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SEASON</th>
<th>INDUSTRY</th>
<th>COUNTY</th>
<th>OCCUPATION</th>
<th>OR-FACE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushed by forklift mast</td>
<td>Spring</td>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>Linn</td>
<td>Farming, Fishing, and Forestry Occupations</td>
<td>OR 2019-17-1</td>
</tr>
</tbody>
</table>

A 38-year-old agricultural worker died after sustaining a mechanical crush injury while working in a grass seed warehouse. The agricultural worker was attempting to unload a 2,000-pound bag of sheep feed into a hopper when he was found trapped in a forklift mast, i.e., the system on a forklift that performs load lifting. He was found by a family member and pronounced dead at the scene.
A 37-year-old carpenter died after sustaining multiple traumatic injuries from a falling house. The carpenter was setting a manufactured home on a slab foundation using four jacks, when the home became unbalanced, then slipped and fell onto the carpenter. He was transported to the hospital where he died.

Two workers, ages 35 and 27, were removing rigging and dismantling a stage after a music festival. They were using a boom lift to access rigging in trees 40 feet above the ground. The boom lift was on an uneven grade and tipped over when extended. The workers were attached to the basket, and were crushed and killed by the collapsing boom lift.

A 62-year-old excavator operator died after sustaining compression asphyxia while removing trees. The employee was clearing trees from a lot using an excavator when a tree fell on the cab of the excavator. He was pronounced dead on the scene.

A 29-year-old agricultural worker was operating a tractor towing a tape drip line puller when he stopped the tractor to perform maintenance on the tape. He left the tractor engaged when he exited, and while performing the maintenance, became entangled between the drive roller and idler roller. He died at the scene of crushing injuries.

A 42-year-old agricultural worker was working behind a disengaged onion harvester. The harvester operator, unaware that the worker was close by, engaged the harvester. The worker was pulled into the harvester and died of crush injuries.
A 71-year-old tree feller was boring (cutting into the side) a tree to control the direction of its fall. The tree delaminated vertically ("barber-chaired") and struck the worker, causing traumatic chest and head injuries, killing him.

**EXPOSURE TO HARMFUL SUBSTANCES OR ENVIRONMENTS**

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SEASON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Struck by tree</td>
<td>Autumn</td>
</tr>
<tr>
<td>Snow immersion suffocation</td>
<td>Winter</td>
</tr>
<tr>
<td>Heat exhaustion</td>
<td>Summer</td>
</tr>
<tr>
<td>Lack of Oxygen</td>
<td>Spring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>Douglas</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>Jackson</td>
</tr>
<tr>
<td>Construction</td>
<td>Washington</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OCCUPATION</th>
<th>OR-FACE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farming, Fishing, and Forestry Occupations</td>
<td>OR 2019-39-1</td>
</tr>
<tr>
<td>Protective Service Occupations</td>
<td>OR 2019-05-1</td>
</tr>
<tr>
<td>Farming, Fishing, and Forestry Occupations</td>
<td>OR 2019-48-1</td>
</tr>
<tr>
<td>Construction and Extraction Occupations</td>
<td>OR 2019-49-1</td>
</tr>
</tbody>
</table>

A 23-year-old ski patrol employee was skiing when he fell head first downhill and slid into a tree well. He was entrapped in the tree well, and subsequently suffocated due to snow immersion. He was found dead at the scene when members of his group found him and tried to extricate him from the tree well. It was a heavily treed backcountry area, with heavy fresh snow on a steep slope.

A 21-year-old choker setter was setting chokers on a log, when he collapsed. Nearby workers called for medical help and the employee was transported to a hospital, where he died the following day of heat exhaustion.

A 42-year-old painter was using a pressure washer with a combustion engine inside a garage with the door closed. He suffered a cardiac arrest and possible carbon monoxide poisoning, and was transported to a hospital by emergency responders. He died the following day due to lack of oxygen and blood to the brain.
A 46-year-old construction laborer sustained brain trauma after striking his head in an unwitnessed fall to a lower level. He was transported to a hospital and died shortly thereafter.

A 27-year-old construction laborer died of traumatic head, neck, and chest injuries after falling from a roof. He was working on a roof, when he fell through a skylight and landed 42-feet below onto a concrete floor. The employee was pronounced dead at the scene.

A 60-year-old concrete layer was working on a roof of a new construction pole barn, when he fell approximately 20-feet onto hard compact rock. He was transported to a local hospital via ambulance where he later passed away from multiple blunt force injuries of the neck and torso.

A 28-year-old temporary construction laborer died of craniocerebral trauma after a fall to a lower level. The employee was on a five-foot mobile ladder removing brackets from an overhead raceway between print lines of a solar panel. Another employee heard a hard hat hit the cement floor and found the construction laborer on the floor. 911 was called and the employee was transported to the hospital where he was later pronounced dead.

A 72-year-old maintenance supervisor was carrying a wheelchair down the stairs to a lower-level storage room when she fell and hit her head onto a concrete floor. The employee was transported to the hospital where she later died due to blunt force head trauma.
A 63-year-old fish packer was attempting to push stuck fish inside a way hopper. The employee was standing outside on the platform to shovel and push the few leftover fish. When she went to the west way hopper, she lost her balance and fell through a gap in the guardrails (where the ladder attached), approximately seven-feet onto the concrete dock floor. She was transported to the hospital where she later passed away.

A 53-year-old oiler was working at a sawmill when he fell through a floor opening 12 feet to a lower level when the steel floor hold cover failed. He sustained a severe closed head injury with temporal bone fractures and intracerebral hemorrhage and was taken via Life Flight to a hospital where he was in a medically induced coma. He died several days later.

A 47-year-old school maintenance worker was painting while on a scissor lift, when for unknown reasons the lift tipped over and the employee fell. The worker fell at least 20 feet, and died at the scene of blunt force chest injuries.

An 87-year-old appliance manager, for unknown reasons, fell while standing at work. The employee hit his head and sustained a severe closed head injury hemorrhage. He was transported to the hospital where he died several days later.

A 61-year-old certified contractor died after sustaining multiple blunt force injuries. The employee was attempting to cut tree limbs on a ladder when, for unknown reasons, fell from the ladder. He was pronounced dead several hours later.
A 42-year-old construction worker was performing roofing work, when he fell to a lower level approximately 13 feet below. He died at the scene of hemorrhagic shock.

**Fires and Explosions**

<table>
<thead>
<tr>
<th>Description</th>
<th>Season</th>
<th>Industry</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propane tank explosion</td>
<td>Spring</td>
<td>Manufacturing</td>
<td>Clackamas</td>
</tr>
</tbody>
</table>

A 49-year-old truck driver died of thermal injuries after an explosion. The employee was attempting to back a truck into the depot when he bumped into a pole once, and then backed into the pole again. Then, he “floored” the truck into a propane tank, resulting in a fire. Employee was pronounced dead on the scene.

**Transportation Incidents**

<table>
<thead>
<tr>
<th>Description</th>
<th>Season</th>
<th>Industry</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Vehicle Accident</td>
<td>Winter</td>
<td>Transportation and Warehousing</td>
<td>Yamhill</td>
</tr>
</tbody>
</table>

Two semi-truck drivers, a 52-year-old driving with two empty tanks, and 45-year-old driving with two trailers loaded with poultry cages, collided due to icy conditions. The 52-year-old driver was driving eastbound and the 45-year-old driver was driving westbound, when they collided and immediately the two semi-trucks were incinerated.

<table>
<thead>
<tr>
<th>Description</th>
<th>Season</th>
<th>Industry</th>
<th>County</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capsized fishing vessel</td>
<td>Winter</td>
<td>Agriculture, Forestry, Fishing and Hunting</td>
<td>NA (Open Water)</td>
</tr>
</tbody>
</table>

A crew of three commercial crab fishermen died after their boat capsized in rough waters off the Oregon Coast. Despite poor weather conditions and heavy seas, the crew stayed out until after dark. On their return the Coast Guard, which had already escorted other vessels, attempted to guide them using illumination flares. As they were being escorted, 12- to 14-foot waves washed over the pilot house, swamping the boat. The boat was cut in two and the deck sheared off. One crew member was pulled from the water but later died, and the other crew member was found dead on the beach. The captain of the vessel was found dead in the pilot house, with traces of alcohol, methamphetamine, and amphetamine in his blood stream. Cause of death for the three deceased crew members was reported as asphyxia by drowning, and there was no report of personal floatation device use.
A 69-year-old retirement center transportation employee died of blunt trauma and compressive asphyxia while transporting residents to the bank. The employee pulled the vehicle into a parking space, opened the door, and stepped out. The employee did not place the vehicle in a park position and subsequently the vehicle started to move. The transportation employee attempted to reach into the vehicle and was pinned under the wheel. Witnesses called emergency services and the employee was transported to the hospital and died shortly thereafter.

A 52-year-old government employee was driving home in a state passenger vehicle when she died of injuries sustained in a motor vehicle accident. The employee was suddenly hit by another driver of a passenger vehicle in a head-on collision. The driver of the other vehicle was later arrested and found to be driving under the influence of intoxicants. The employee was pronounced dead on the scene.

A 55-year-old log truck driver sustained blunt force injuries to the abdomen after crashing into a tree. He was driving a loaded truck down a hill on a graveled road when, for unknown reasons, the truck flipped onto its side and slid into the tree. Subsequently the cab of the truck was crushed and dislodged due to the impact. The driver died on the scene.

A 55-year-old semi-truck driver died of asphyxiation after the vehicle overturned. The truck driver was driving at night when he failed to negotiate a curve and subsequently the vehicle drifted off the road, onto the shoulder and rolled onto its side. The driver was found to not be wearing a seatbelt and the impact of the crash ejected him from his vehicle. The truck driver was pronounced dead on the scene. According to the State Police report, alcohol use and speed of the vehicle may have been contributing factors to the crash.
A 29-year-old delivery truck driver was driving with his niece in the passenger seat when he crashed into a utility pole. According to reports, the truck driver failed to negotiate a curve, drifted off the roadway, and crashed into the utility pole. Both the driver and passenger were found dead on the scene.

A 77-year-old contracted mail carrier (non-USPS) died after he was struck by a taxi vehicle. The employee parked his vehicle and crossed the street when he was struck by a taxi, resulting in a fatal injury.

A 63-year-old log truck driver died after sustaining crushing blunt force chest and abdominal injuries. The log truck driver was driving a loaded truck when he stopped at a wide spot along the road. He got out of the truck and was standing at/between the tag axle when the truck rolled forward, crushing him. He was pronounced dead on the scene.

A 45-year-old flagger died after sustaining multiple blunt force injuries. The flagger was working on an active work site when a passenger vehicle struck the flagger. He was pronounced dead on the scene by medical crew.

A 65-year-old flooring installer died after sustaining crush injuries of the torso. The flooring installer was caught between a loading dock and the trailer of a semi-truck that was backing up.
A 59-year-old public works employee was operating a skidder during road construction, when for unknown reasons it overturned and rolled 300-400 feet down a hill. The skidder landed on the decedent, who died of multiple traumatic injuries.

A 66-year-old semi-truck driver attempted to cross a highway on foot after stopping on the shoulder, and was struck by a passenger vehicle. The semi-truck driver died at the scene; the driver of the passenger vehicle was released after being taken to a local hospital.

A 50-year-old semi-truck driver crashed into a freeway sign while driving under wet conditions. The truck and trailer both caught fire, and the cause of death was ruled as smoke and soot inhalation.

A 39-year-old race-car/stunt driver was attempting to break a land speed record in a jet-powered car in a desert setting. A mechanical problem with the front wheel occurred at high speeds, collapsing the wheel assembly and crashing the car. The driver died at the scene.

A 55-year-old pilot was taking off from an airfield in a single-engine plane, when the engine cut out at approximately 100 ft off the ground. The plane crashed and the pilot died on the scene.
A 21-year-old truck driver was traveling on a highway bridge when for unknown reasons, the truck drifted right and went through the guardrail and landed on the roadway below. The driver was traveling after midnight, and fatigue was considered a possible contributing factor. He died at the scene of multiple blunt force injuries.

A 57-year-old agricultural worker attempted to jump-start a tractor while standing by the steps of the tractor. The tractor started, and ran over the worker, crushing him.

An 89-year-old forestry worker was operating a rubber tire steer skidder loaded with a 55 ft tree in its grapple. The skidder lost balance and rolled over down a hill. The worker died at the scene of blunt neck trauma.

A 51-year-old truck driver was driving a truck loaded with logs, when she lost control at a corner turn. The load shifted forward, crushing the truck cab and the driver.

A 43-year-old truck driver had stopped his truck at the side of a road. While checking his load, he was struck by a passenger vehicle, and died of blunt force trauma.
A 47-year-old tradesmen was crushed between a backhoe and a dump truck. He was transported to a nearby hospital, where he died of blunt force traumatic injuries.

A 40-year-old social assistance employee was walking next to a street with a client, when a passenger vehicle jumped the curb and struck the employee. The employee was transported to a hospital where he died the next day of blunt force head trauma. The driver of the vehicle was charged with driving under the influence.

VIOLENCE AND OTHER INJURIES BY PERSONS OR ANIMALS

A 36-year-old manager at a food production company was intentionally and fatally shot by a former employee.

A 22-year-old retail worker died of a self-inflicted gunshot wound while at the workplace.

A 53-year-old live-in caregiver was found dead from multiple gunshot wounds by Oregon State Police, inside the home of her client. The client appeared to have shot the caregiver, and then committed suicide.
### DELAYED CASES

Worker fatalities with delayed death from date of injury (over 48 hours), 2019.

<table>
<thead>
<tr>
<th>EVENT</th>
<th>CAUSE OF DEATH</th>
<th>INTERVAL</th>
<th>FACE ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL</td>
<td>Intracerebral hemorrhage</td>
<td>3 days</td>
<td>OR 2019-18-1</td>
</tr>
<tr>
<td>FALL</td>
<td>Blunt force head trauma</td>
<td>2 days</td>
<td>OR 2019-21-1</td>
</tr>
<tr>
<td>FALL</td>
<td>Intracerebral hemorrhage</td>
<td>6 days</td>
<td>OR 2019-24-1</td>
</tr>
</tbody>
</table>

### UNDETERMINED CASES

OR-FACE attempts to verify the details of fatalities through as many avenues as possible, to determine if a case meets our criteria of an occupational traumatic fatality. In cases with insufficient data, or when we cannot rule out a case, it is classified as “undetermined.” For 2019, the following three cases are considered undetermined, pending additional information.

<table>
<thead>
<tr>
<th>EVENT</th>
<th>DESCRIPTION</th>
<th>SEX</th>
<th>SEASON</th>
<th>NAICS CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSPORTATION INCIDENT</td>
<td>Plane crash</td>
<td>Male</td>
<td>Winter</td>
<td>Transportation and Warehousing</td>
</tr>
<tr>
<td>TRANSPORTATION INCIDENT</td>
<td>Snowplow and truck collision</td>
<td>Male</td>
<td>Autumn</td>
<td>Transportation and Warehousing</td>
</tr>
<tr>
<td>UNKNOWN</td>
<td>Found prone with face bloody</td>
<td>Male</td>
<td>Autumn</td>
<td>Health Care and Social Assistance</td>
</tr>
</tbody>
</table>
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.

Assaults and Violent Acts

Assaults and violent acts include cases where a person was injured or made ill by assaults, or by violent, harmful actions regardless of intent. Included in this definition 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.

Bodily Reaction and Exertion

This event definition applies 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.

Contact With Objects and Equipment

This event applies to injuries produced by contact between the injured person and the source of injury except when contact was due to falls, transportation incidents, 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.”

Exposure to Harmful Substances or Environments

This event definition applies 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.

Falls

Falls are events where the injury was produced by an impact between the injured person and an object or surface when the motion was generated by gravity.

Fires and Explosions

This event definition applies to cases where the injury or illness resulted from an explosion or fire. Included are cases where 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 definition also includes incidents where 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.
**Transportation Incidents**

This event definition applies to events involving transportation vehicles, powered industrial vehicles, or powered mobile industrial equipment where at least one vehicle (or mobile equipment) was 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 under this event definition include pedestrians, roadway workers, or other non-passengers struck by vehicles, powered industrial equipment on or off the roadway (including indoor locations) when the incident meets these criteria:

(a) at least one vehicle was in regular operation, and

(b) the impact was caused by a traffic incident or forward/backward travel of the vehicle.

**Other Events or Exposures**

This event definition applies to any event or exposure that is not classified or listed under any other division.

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**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 accomplishes this mission through basic and applied research, outreach, and education.

Oregon Health & Science University (OHSU) is a nationally prominent research university and Oregon’s only academic health center. It educates health professionals and scientists and provides leading-edge patient care, community service and biomedical research.

**OR-FACE**

The Oregon Fatality Assessment and Control Evaluation (OR-FACE) is a project of the Oregon Institute of Occupational Health Sciences at Oregon Health & Science University. 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 aimed at preventing similar injuries. 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.
Published 2021. To ensure accurate fatality surveillance, each Annual Report has historically been published approximately 18 months after the end of a study year.

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