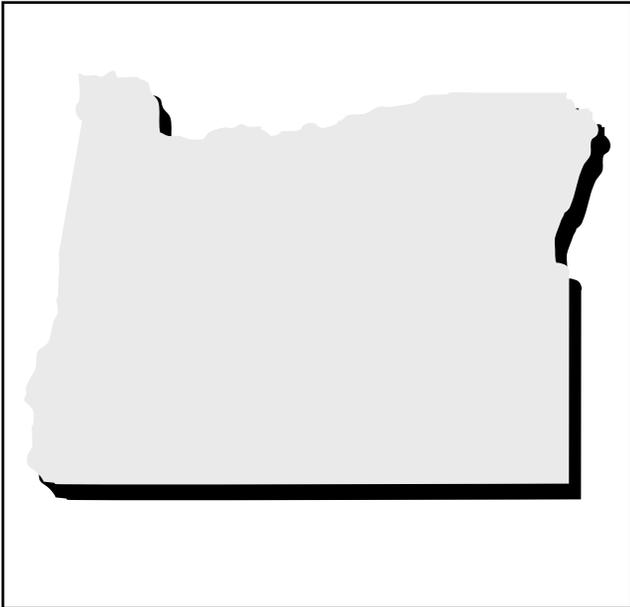




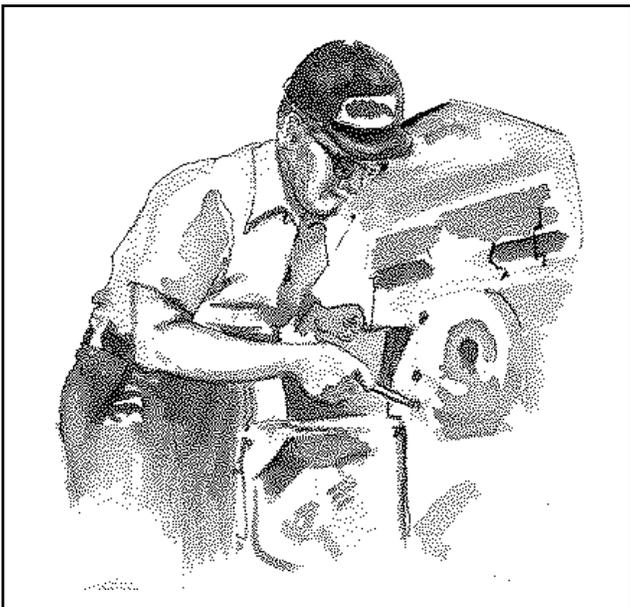
# Oregon Compensable Fatality Report

*Calendar Year 2002*



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*Research & Analysis Section  
Oregon Dept. of Consumer  
& Business Services*



**October 2004**

# Oregon Compensable Fatality Report

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## Introduction

This report presents data about Oregon's fatalities accepted by Workers' Compensation insurers as compensable during the 2002 calendar year, without regard to the date of injury or death. The claims included in this report are those for which the Department of Consumer & Business Services (DCBS) received notification of acceptance by January 31, 2003.

The information presented here may be useful in preventing work-related fatalities. The Occupational Safety and Health Division of the Department of Consumer & Business Services is taking an active role in preventing fatal accidents. OR-OSHA administers a consultative services program that helps employers identify and moderate worksite hazards. OR-OSHA provides information about personal protective equipment, industrial hygiene, and ergonomic worksite designs; trains employers and employees; and enforces Oregon's occupational-safety-and-health rules and standards.

Appendix A and Appendix B, Pages 26-27, explain the scope of the report and methodology for classifying fatal claims. Information about accepted disabling claims can be found on the DCBS Web site at: [www.cbs.state.or.us/imd/claimdata.html](http://www.cbs.state.or.us/imd/claimdata.html). More detailed information may be obtained from the Research & Analysis Section of the department's Information Management Division.

IMD also gathers data on work-related fatalities for a federal/state cooperative program. The Census of Fatal Occupational Injuries (CFOI) program is a cooperative program of the U.S. Bureau of Labor Statistics (BLS) and participating states. The fatalities included in the CFOI count are those that occurred in the state during the reference year that were work-related according to the CFOI criteria. CFOI covers a larger population base than that covered by workers' compensation; it includes nearly all workers engaged in legal work activities, regardless of industry or regulatory jurisdiction. An IMD publication, *Census of Fatal Occupational Injuries*, is available from the Research & Analysis Section of the department's Information Management Division, or from the DCBS Web site at [www.cbs.state.or.us/imd/claimfat.html](http://www.cbs.state.or.us/imd/claimfat.html). Compensable fatality tables are available in printed form upon request. Call (503) 378-8254 to request tables or to obtain more detailed information about Oregon fatalities.

## Findings in brief

- The Workers' Compensation Division was notified by insurers of 52 claims accepted for fatality benefits during the 2002 calendar year. This is an increase of 18 from the record-low 34 fatalities recorded in 2001. There was an average of 46 compensable fatalities a year for the five-year period, 1998-2002.
- The logging industry claimed seven compensable fatalities in 2002, 13.5 percent of the total. Five logging fatalities were reported in 2001.
- There were six compensable fatalities in the construction industry in 2002, all in the private sector. This compares to four compensable fatalities in 2001. During 1998 to 2002, the construction industry averaged 4.4 fatalities a year.
- Five of the 52 fatalities (9.6 percent) were in the agriculture, forestry, and fishing industries, compared to three (8.8 percent) in 2001.
- There were nine compensable fatalities in the public sector in 2002, compared to four in 2001.
- In 2002, highway motor vehicle accidents were the leading event, claiming 14 lives, compared to five highway motor vehicle accidents in 2001. At least six of the 14 workers killed in highway motor vehicle accidents were not wearing seat belts (three were unknown).
- Being struck by or against an object was the second leading event, claiming nine lives, compared to six in 2001.
- There was one aircraft accident in 2002, compared to four in 2001.
- Assaults and violent acts claimed three lives in 2002 compared to no deaths in 2001.
- Thirty of the compensable fatalities were considered to be program-related. Program-related fatalities are those in-state fatalities that might have been prevented by following specific safety regulations, general duty clauses, or good safety and health practices.
- There were 10 transportation operators killed in 2002 compared to seven in 2001. Eight service-occupation employees were killed in 2002 compared to seven in 2001.
- The median age of the 52 workers at injury was 40. The youngest worker killed was a 19-year-old fire watchman. The oldest worker was a 73-year-old timber faller.
- Of the 52 people who died in work-related accidents, 47 were men and five were women, compared to 33 men and one woman in 2001.
- Six compensable fatalities occurred outside Oregon, compared to eight in 2001. Six also occurred in Multnomah and Coos counties. Five occurred in Douglas County.
- In 2002, July and October had the most fatalities with seven each, followed by November with six. December had the fewest fatalities, two.
- Sixteen workers died within the first year of working for the employer. Seven workers had been employed for a month or less at the time of injury.

# Analysis of compensable fatalities

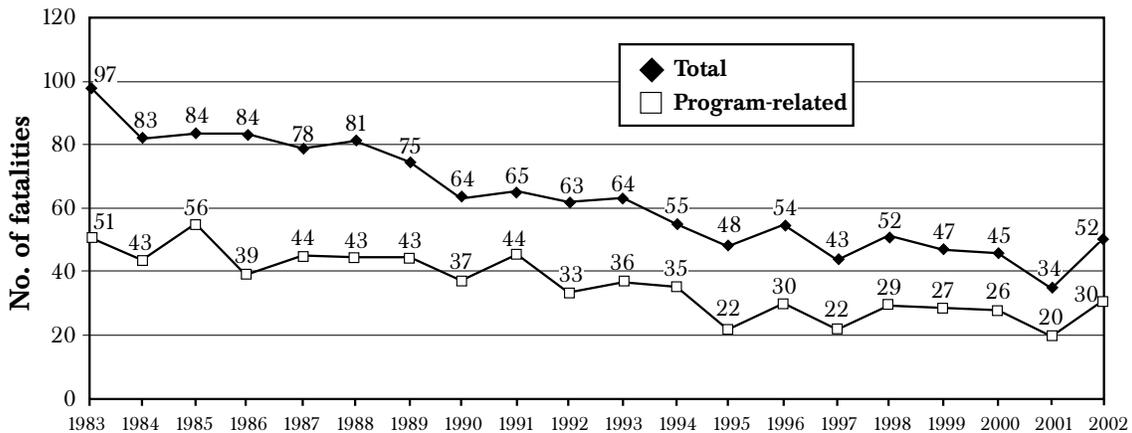
During the 2002 calendar year, the Workers' Compensation Division of the Department of Consumer & Business Services recorded the acceptance of 52 fatality claims for benefits. This is 18 more than the 34 fatalities in 2001, which was the lowest number of fatalities recorded in Oregon since the Occupational Safety and Health Division began collecting data in 1943 (see Figure 1, below, and Table 18, Page 22). For comparison, there was an average of 46 compensable fatalities a year for 1998-2002.

Thirty of the 2002 fatalities were program-related. Program-related fatalities are those in-state fatalities that occur at a workplace over which OR-OSHA has the primary jurisdiction and for which OR-OSHA plans to conduct an investigation of the incident. These fatalities are assumed to have

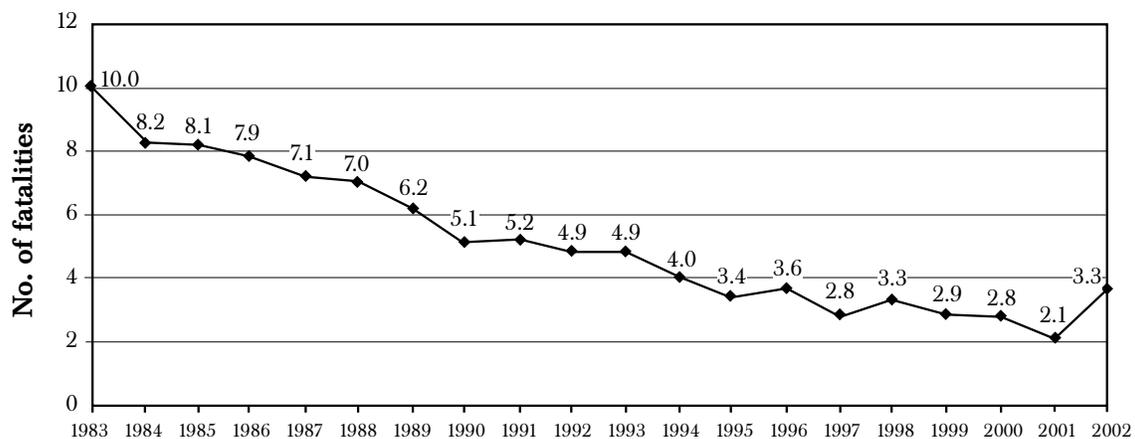
resulted from the violation of a specific Oregon Safe Employment Act rule or general duty clause or from poor safety and health practices. Out-of-state fatal accidents are not considered program-related because they are not within Oregon OSHA's jurisdiction. Of the 2002 compensable fatalities, 57.7 percent were program-related, compared to 58.8 percent in 2001.

The fatality rates in Figure 2, below, are the number of fatalities per 100,000 subject employees. Employment is estimated workers' compensation-covered employment based on data supplied by the State of Oregon Employment Department and other sources. Employment increased from approximately 973,900 subject workers in 1983 to 1,595,900 in 2002.

**Figure 1. Compensable fatalities, Oregon, calendar years 1983-2002**



**Figure 2. Fatality rates (per 100,000 workers), Oregon, calendar years 1983-2002**



## Accident event

2002 fatal accidents are summarized in Table 17, Page 20, and Appendix C.

Highway motor-vehicle accidents were the most common event of compensable fatalities and accounted for 14 deaths in 2002; six were the result of a collision with another vehicle, six occurred when the worker's vehicle struck a stationary object, and two occurred when the worker's vehicle overturned. None of the 14 motor-vehicle accidents was program-related because highway motor-vehicle accidents are not within OR-OSHA's jurisdiction and cannot be monitored for safe work environments.

Being struck by or against an object was the second leading type of event, claiming nine lives in 2002. Six of these workers were struck by falling objects, one was struck by dislodged crane equipment, and two were struck by rolling objects.

One worker was involved in an aircraft accident. Seven fatalities were the result of fires and explosions.

In 2002, there were three homicides (see Table 2). More information about workplace hazards can be found in *Violence in the Workplace*, DCBS Publication 440-2857.

**Table 1. Compensable fatalities by accident event, Oregon, 2002**

Accident event	WORK-RELATED	
	1998-2002 Average	2002
Struck by object	6.8	9
Caught in/under/between	7.4	7
Falls	3.8	3
Contact with electric current	1.0	1
Toxic/caustic substances	1.2	1
Drowning	0.2	0
Highway accidents	11.2	14
Industrial vehicle accidents	4.2	3
Pedestrian accidents	3.0	3
Aircraft accidents	2.8	1
Fires and explosions	2.0	7
Assaults and violent acts	1.8	3
Other	0.6	0
<b>Total</b>	<b>46.0</b>	<b>52</b>

**Table 2. Compensable fatalities due to homicide, Oregon, 1993-2002**

Year of acceptance	No. of fatal claims	Claims due to homicide	Homicides as % of total
1993	64	1	1.6%
1994	55	6	10.9%
1995	48	3	6.3%
1996	54	0	0.0%
1997	43	3	7.0%
1998	52	2	3.8%
1999	47	3	6.4%
2000	45	1	2.2%
2001	34	0	0.0%
2002	52	3	5.8%

**Table 3a. Work-related fatalities by accident event, Oregon, 1993-2002**

<b>Accident event</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Struck by or against	8	10	5	9	4	5	4	10	6	9	70
Caught in/under/between	8	6	3	5	3	9	12	6	3	7	62
Falls	10	7	6	5	6	4	3	4	5	3	53
Bodily reaction	3	1	0	0	0	0	0	0	2	0	6
Contact with electric current	2	1	0	0	2	2	2	0	0	1	10
Toxic/caustic substances	1	2	2	2	3	1	2	0	2	1	16
Drownings	0	0	3	0	0	0	0	1	0	0	4
Highway motor vehicle accidents	18	13	13	15	12	17	9	11	5	14	127
Industrial vehicle accidents	2	2	4	2	2	6	4	6	2	3	33
Pedestrian accidents	5	5	4	5	2	5	3	0	4	3	36
Aircraft accidents	3	0	5	10	3	1	5	3	4	1	35
Railway accidents	0	0	0	0	1	0	0	0	0	0	1
Water vehicle accidents	0	0	0	0	1	0	0	1	0	0	2
Fires and explosions	3	2	0	1	1	0	0	2	1	7	17
Assaults and violent acts	1	6	3	0	3	2	3	1	0	3	22
Other	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 3b. Program-related fatalities by accident event, Oregon, 1993-2002**

<b>Accident event</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Struck by or against	7	10	4	9	2	2	3	7	4	8	56
Caught in/under/between	8	6	3	5	3	9	12	5	3	6	60
Falls	9	5	5	4	6	4	2	4	4	3	46
Bodily reaction	1	1	0	0	0	0	0	0	1	0	3
Contact with electric current	2	1	0	0	1	1	2	0	0	1	8
Toxic/caustic substances	1	2	2	2	3	1	2	0	1	0	14
Drownings	0	0	0	0	0	0	0	1	0	0	1
Highway motor vehicle accidents	1	2	2	4	3	4	2	1	1	0	20
Industrial vehicle accidents	2	2	3	1	2	5	2	5	2	2	26
Pedestrian accidents	2	4	3	4	1	3	2	0	3	1	23
Railway accidents	0	0	0	0	1	0	0	0	0	0	1
Water vehicle accidents	0	0	0	0	0	0	0	1	0	0	1
Aircraft accidents	0	0	0	0	0	0	0	0	0	0	0
Fires and explosions	3	2	0	1	0	0	0	2	1	7	16
Other	0	0	0	0	0	0	0	0	0	2	2
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

# Industry

Seventeen of the 52 fatalities occurred in the manufacturing industry in 2002 (see Figure 3, Page 7). This is a 70.0 percent increase from the 10 workers killed in 2001. Seven fatalities occurred in logging; five were struck by a falling tree or branch, one was struck by a rolling log, and one was killed in a highway motor-vehicle accident. One fatality occurred in a sawmill when a worker was caught in a planer. Two fatalities occurred in other wood products manufacturing. One worker died in a highway motor-vehicle accident and the other worker was caught in a conveyor. Seven fatalities occurred in other manufacturing. Three of those seven fatalities were due to workers being caught in or between objects, one worker was killed in an explosion, one worker was killed in a highway motor-vehicle accident, one worker was electrocuted, and one worker died in an industrial vehicle accident.

The public sector recorded nine fatalities in 2002 compared to four compensable fatalities in 2001. Three workers died in a structure fire, two in a highway motor-vehicle accidents, one as a pedestrian struck by a semi-truck, one fell from an electric pole, one in a homicide, and one when a helicopter crashed.

Construction had six of the 52 compensable fatalities in 2002. This is a 50.0 percent increase over the four workers killed in the construction industry in 2001. Three workers were killed in highway motor-vehicle accidents, one was a pedestrian struck by a dump truck, one fell through a roof opening, and one was struck by a falling light.

Six workers in the transportation and public utilities industry died in 2002, compared to seven fatalities in 2001. Five workers died in highway motor-vehicle accidents, and one worker died as a pedestrian struck by a truck.

As indicated earlier, 57.7 percent of the 2002 fatalities were program-related. Those industries with the highest percentage of program-related fatalities are retail trade (100 percent); services (80 percent); agriculture, forestry, and fishing (80 percent); and manufacturing (64.7 percent).

**Table 4. Compensable fatalities by accident event within industrial classification, Oregon, 2002**

Industry	Total	Struck by or against	Caught in/under/between	Falls	Other	Toxic/caustic substance	Hwy motor vehicle accident	Industrial vehicle accident	Pedestrian accident	Aircraft accident	Fires & explosions	Assault & violent
Agriculture, forestry, fishing	5	1	1	0	0	0	1	1	0	0	1	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0
Construction	6	1	0	1	0	0	3	0	1	0	0	0
Manufacturing (17)												
Other manufacturing	7	0	3	0	1	0	1	1	0	0	1	0
Logging	7	6	0	0	0	0	1	0	0	0	0	0
Sawmills	1	0	1	0	0	0	0	0	0	0	0	0
Other woods	2	0	1	0	0	0	1	0	0	0	0	0
Transportation, public utilities	6	0	0	0	0	0	5	0	1	0	0	0
Wholesale trade	1	0	0	0	0	0	1	0	0	0	0	0
Retail trade	3	0	1	0	0	0	0	0	0	0	0	2
Finance, insurance, real estate	0	0	0	0	0	0	0	0	0	0	0	0
Services	5	1	0	1	0	1	0	0	0	0	2	0
Government	9	0	0	1	0	0	1	1	1	1	3	1
<b>Total</b>	<b>52</b>	<b>9</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>14</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>3</b>

Table 5. Compensable fatalities by occupation within industrial classification, Oregon, 2002

Industry	Total	Prof. & managerial	Technical, admin, support	Sales	Service	Farm labor & managers	Loggers, foresters, & fishers	Mechanics & repairers	Construct. trades	Operators, excluding transport	Precision product & mining	Transportation operators	Laborers excl. farm
Agriculture, forestry, fishing	5	0	0	0	0	4	0	1	0	0	0	0	0
Mining	0	0	0	0	0	0	0	0	0	0	0	0	0
Construction	6	1	0	0	0	0	0	0	3	0	0	1	1
Manufacturing (17)													
Other manufacturing	7	1	1	1	0	0	0	1	0	2	0	1	0
Logging	7	0	0	0	1	0	6	0	0	0	0	0	0
Sawmills	1	0	0	0	0	0	0	0	0	1	0	0	0
Other woods	2	0	0	0	0	0	0	0	0	0	1	1	0
Transportation, public utilities	6	0	0	0	0	0	0	0	0	0	0	6	0
Wholesale trade	1	0	0	0	0	0	0	0	0	0	0	1	0
Retail trade	3	0	0	2	0	0	0	0	0	0	0	0	1
Finance, insurance, real estate	0	0	0	0	0	0	0	0	0	0	0	0	0
Services	5	3	1	0	0	0	0	1	0	0	0	0	0
Government	9	0	1	0	7	0	0	0	1	0	0	0	0
<b>Total</b>	<b>52</b>	<b>5</b>	<b>3</b>	<b>3</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>3</b>	<b>4</b>	<b>3</b>	<b>1</b>	<b>10</b>	<b>2</b>

Figure 3. Compensable fatalities by industry division, Oregon, 2002

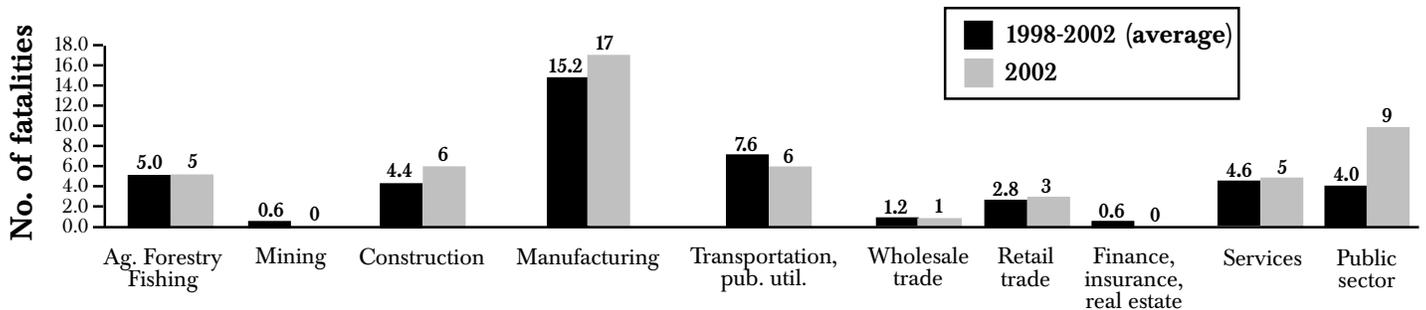
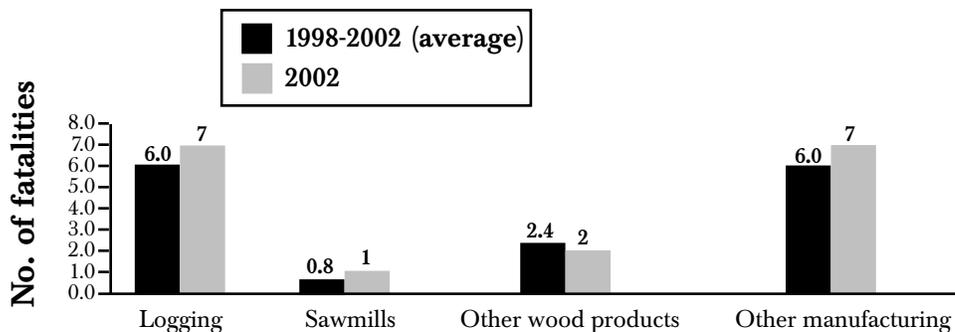


Figure 4. Compensable fatalities within manufacturing division, Oregon, 2002



**Table 6a. Work-related fatalities by industry, Oregon, 1993-2002**

<b>Industry</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
<i>PRIVATE SECTOR</i>											
Agriculture, forestry, fishing	6	4	3	1	4	9	3	5	3	5	43
Mining	1	0	1	2	1	2	0	1	0	0	8
Construction	11	9	14	5	11	4	5	3	4	6	72
Manufacturing subtotal	20	14	5	16	6	17	14	18	10	17	137
Logging	11	7	3	9	1	7	2	9	5	7	61
Sawmills	2	3	0	2	1	0	3	0	0	1	12
Other wood products	1	1	0	1	0	3	3	3	1	2	15
Other manufacturing	6	3	2	4	4	7	6	6	4	7	49
Transportation, public utilities	9	4	8	10	5	8	9	8	7	6	74
Wholesale trade	2	3	2	4	2	2	1	1	1	1	19
Retail trade	4	7	4	3	6	5	2	1	3	3	38
Finance, insurance, real estate	0	2	2	1	0	1	1	1	0	0	8
Services	4	8	8	7	4	4	6	6	2	5	54
<b>Private sector subtotal</b>	<b>57</b>	<b>51</b>	<b>47</b>	<b>49</b>	<b>39</b>	<b>52</b>	<b>41</b>	<b>44</b>	<b>30</b>	<b>43</b>	<b>453</b>
<i>PUBLIC SECTOR</i>											
State government											
Construction	0	0	0	1	0	0	1	0	0	0	2
Services	0	1	0	0	0	0	0	0	0	0	1
Public administration	3	3	1	0	4	0	2	0	1	1	15
<b>Subtotals</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>18</b>
Local government											
Construction	1	0	0	1	0	0	0	0	0	0	2
Transportation, public utilities	1	0	0	0	0	0	0	0	1	0	2
Services	0	0	0	1	0	0	1	0	0	0	2
Public administration	2	0	0	2	0	0	2	1	2	8	17
<b>Subtotal</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>8</b>	<b>23</b>
<b>Public sector subtotal</b>	<b>7</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>4</b>	<b>9</b>	<b>41</b>
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

*Note: Fatalities are classified according to the 1987 Edition of the Standard Industrial Classification Manual.*

Table 6b. Program-related fatalities by industry, Oregon, 1993-2002

Industry	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
<i>PRIVATE SECTOR</i>											
Agriculture, forestry, fishing	4	3	2	1	2	6	2	5	3	4	32
Mining	1	0	1	2	0	0	0	1	0	0	5
Construction	9	7	11	3	10	3	5	3	4	3	58
Manufacturing subtotal	13	13	3	13	5	13	10	12	6	11	99
Logging	6	6	1	8	1	6	1	5	3	5	42
Sawmills	2	3	0	2	0	0	3	0	0	1	11
Other wood products	0	1	0	1	0	3	3	2	1	1	12
Other manufacturing	5	3	2	2	4	4	3	5	2	4	34
Transportation, public utilities	2	0	1	3	0	2	4	1	1	0	14
Wholesale trade	1	3	0	0	1	1	1	0	1	0	8
Retail trade	2	0	2	2	0	2	0	1	1	3	13
Finance, insurance, real estate	0	1	0	0	0	0	1	0	0	0	2
Services	2	4	2	3	1	2	1	2	2	4	23
<b>Private sector subtotal</b>	<b>34</b>	<b>31</b>	<b>22</b>	<b>27</b>	<b>19</b>	<b>29</b>	<b>24</b>	<b>25</b>	<b>18</b>	<b>25</b>	<b>254</b>
<i>PUBLIC SECTOR</i>											
State government											
Construction	0	0	0	1	0	0	1	0	0	0	2
Services	0	1	0	0	0	0	0	0	0	0	1
Public administration	1	3	0	0	3	0	1	0	1	1	10
Subtotal	1	4	0	1	3	0	2	0	1	1	13
Local government											
Construction	1	0	0	1	0	0	0	0	0	0	2
Public administration	0	0	0	1	0	0	1	1	1	4	8
<b>Subtotal</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>4</b>	<b>10</b>
<b>Public sector subtotal</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>23</b>
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

Note: Fatalities are classified according to the 1987 Edition of the Standard Industrial Classification Manual.

# Occupation

Ten transportation operators were among the 52 fatalities in 2002 (see Table 7, below). Eight of the 10 were killed in highway motor-vehicle accidents, one was killed in an industrial vehicle accident, and one was killed as a pedestrian struck by a truck.

Eight workers in service occupations were killed in 2002 compared to seven in 2001. Three were killed in a structure fire, two were killed in highway motor-vehicle accidents, one died in a helicopter crash, one worker was killed in a homicide, and one in an industrial vehicle accident.

**Table 7. Compensable fatalities by accident event within occupational classification, Oregon, 2002**

Occupation	Total	Struck by or against	Caught in/under/between	Falls	Other	Toxic/caustic substance	Hwy motor vehicle accident	Industrial vehicle accident	Pedestrian accident	Aircraft accident	Fires & explosions	Assault & violent
Professional and managerial	5	0	0	0	0	1	0	0	1	0	3	0
Technical, admin. support	3	0	0	1	0	0	1	0	1	0	0	0
Sales occupations	3	0	0	0	1	0	0	0	0	0	0	2
Service occupations	8	0	0	0	0	0	2	1	0	1	3	1
Firefighters	4	0	0	0	0	0	1	0	0	0	3	0
Police & sheriffs, public service	3	0	0	0	0	0	1	0	0	1	0	1
Other	1	0	0	0	0	0	0	1	0	0	0	0
Farm laborers and managers	4	1	1	0	0	0	1	1	0	0	0	0
Loggers, foresters, fishers	6	6	0	0	0	0	0	0	0	0	0	0
Loggers	6	6	0	0	0	0	0	0	0	0	0	0
Mechanics and repairers	3	1	1	0	0	0	0	0	0	0	1	0
Construction trades	4	1	0	2	0	0	1	0	0	0	0	0
Precision product, mining	1	0	1	0	0	0	0	0	0	0	0	0
Operators, except transport	3	0	3	0	0	0	0	0	0	0	0	0
Transportation operators	10	0	0	0	0	0	8	1	1	0	0	0
Truck drivers	10	0	0	0	0	0	8	1	1	0	0	0
Laborers, except farm	2	0	1	0	0	0	1	0	0	0	0	0
<b>Total</b>	<b>52</b>	<b>9</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>14</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>3</b>

**Table 8a. Work-related fatalities by occupation, Oregon, 1993-2002**

<b>Occupation</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Professional and managerial	2	3	5	11	4	3	8	3	0	5	44
Technical, administrative support	5	2	7	4	3	1	2	3	3	3	33
Sales occupations	2	3	2	2	2	2	0	2	0	3	18
Service occupations	4	5	3	2	5	2	4	2	7	8	42
Farm laborers and managers	5	3	2	2	3	9	2	4	0	4	34
Loggers, foresters, fishers	12	9	5	10	1	7	5	9	5	6	69
Mechanics and repairers	7	6	2	3	3	3	4	2	0	3	33
Construction trades	8	6	6	4	7	3	2	3	3	4	46
Operators, except transport	3	2	1	0	2	4	2	2	5	3	24
Precision products, mining	2	1	0	1	0	0	2	2	0	1	9
Transportation operators	9	9	10	9	10	17	9	11	7	10	101
Laborers, except farm	5	6	5	6	3	1	7	2	4	2	41
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 8b. Program-related fatalities by occupation, Oregon, 1993-2002**

<b>Occupation</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Professional and managerial	0	1	0	2	2	1	2	0	0	4	12
Technical, administrative support	2	1	1	0	1	0	0	1	0	1	7
Sales occupations	0	0	0	1	0	0	0	1	0	3	5
Service occupations	1	3	0	1	2	1	0	1	4	4	17
Farm laborers and managers	4	3	1	2	2	5	1	4	0	3	25
Loggers, foresters, fishers	5	8	4	10	0	6	4	4	4	5	50
Mechanics and repairers	5	6	1	2	2	3	3	1	0	3	26
Construction trades	8	6	5	4	7	2	2	3	3	3	43
Operators, except transport	2	2	1	0	2	3	2	0	5	2	19
Precision products, mining	1	0	0	1	0	0	2	2	0	1	7
Transportation operators	3	1	5	3	2	7	4	7	2	0	34
Laborers, except farm	5	4	4	4	2	1	7	2	2	1	32
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

*Note: Occupations are classified according to the 1990 Census of Population Alphabetical Index of Industries and Occupations.*

## Age and gender

During the years 1998-2002, the 41-45 and 51-55 age groups averaged the most work-related fatalities (see Table 9). In 2002, the 41-45 age groups had the most fatalities, with 10.

The median age of the 2002 compensable fatalities was 40. The median age for 1998-2002 compensable fatalities was 42. In 2002, the youngest worker killed was a 19-year-old fire watchman who was driving a pickup to a job site at high speed. The victim lost control on a curve, overturned, collided with a boulder, and dropped 12 feet into the dry creek below. The oldest worker was a 73-year-old timber

faller who was cutting a large tree that pivoted, slid backwards, and fell onto him. Three of the six fatalities among workers 25 and younger were program-related.

Of the 52 compensable fatalities in 2002, 47 were men and five were women. One woman was caught in machinery, two were involved in highway motor-vehicle accidents, one fell, and one died in an industrial vehicle accident. This compares to one woman killed in 2001.

**Table 9. Compensable fatalities by age group, Oregon, 2002**

Age group	1998-2002 average	2002	2002 program-related
17 and under	0.4	0	0
18-20	2.4	1	0
21-25	4.0	5	3
26-30	4.8	7	4
31-35	4.2	7	6
36-40	5.4	7	3
41-45	6.6	10	4
46-50	4.8	4	3
51-55	5.8	3	2
56-60	2.6	2	1
61 and over	5.0	6	4
<b>Total</b>	<b>46.0</b>	<b>52</b>	<b>30</b>
<b>Median age</b>	<b>42.0</b>	<b>40</b>	<b>39</b>

**Table 10. Compensable fatalities by gender, Oregon, 2002**

Gender	1998-2002 Average	2002
Male	42.8	47
Female	3.2	5
<b>Total</b>	<b>46.0</b>	<b>52</b>

**Table 11a. Work-related fatalities by age group, Oregon, 1993-2002**

Age group	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
17 and under	0	1	0	0	1	0	1	1	0	0	4
18 - 20	0	2	0	0	1	2	4	5	0	1	15
21 - 25	6	6	3	7	4	7	2	2	4	5	46
26 - 30	10	7	8	6	8	4	6	3	4	7	63
31 - 35	9	6	10	8	4	4	4	4	2	7	58
36 - 40	7	7	9	3	6	8	3	3	6	7	59
41 - 45	11	8	4	9	6	6	10	3	4	10	71
46 - 50	6	5	8	10	3	2	6	8	4	4	56
51 - 55	13	9	1	4	2	7	7	8	4	3	58
56 - 60	1	2	2	4	5	3	2	2	4	2	27
61 and over	1	2	3	3	3	9	2	6	2	6	37
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 11b. Program-related fatalities by age group, Oregon, 1993-2002**

Age group	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
17 and under	0	1	0	0	1	0	0	0	0	0	2
18 - 20	0	2	0	0	0	1	3	2	0	0	8
21 - 25	5	3	3	4	4	4	2	2	2	3	32
26 - 30	5	5	2	5	2	2	4	2	3	4	34
31 - 35	5	4	5	4	3	4	2	3	2	6	38
36 - 40	3	5	5	1	4	4	0	3	4	3	32
41 - 45	5	6	2	5	2	4	6	1	1	4	36
46 - 50	2	2	2	4	2	1	4	4	2	3	26
51 - 55	10	4	1	3	1	4	4	3	2	2	34
56 - 60	0	1	0	2	1	2	1	1	2	1	11
61 and over	1	2	2	2	2	3	1	5	2	4	24
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

**Table 12a. Work-related fatalities by gender, Oregon, 1993-2002**

Gender	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Women	4	10	4	2	3	2	5	3	1	5	39
Men	60	45	44	52	40	50	42	42	33	47	455
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 12b. Program-related fatalities by gender, Oregon, 1993-2002**

Gender	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Women	1	3	1	0	1	0	2	2	1	2	13
Men	35	32	21	30	21	29	25	24	19	28	264
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

## Tenure

An employee's tenure is the length of time that person had worked for the employer at the time of injury or the diagnosis of the illness that led to the fatality.

Sixteen of the workers (30.8 percent) were with their employer for a year or less at the time of injury. While information is not available about

whether these workers had similar jobs in their prior employment, it does indicate the need for training and supervision of new employees. Figure 5, below, shows the distribution of tenure and age at injury. The deaths of experienced workers point out the need for programs to reinforce safety training, as well.

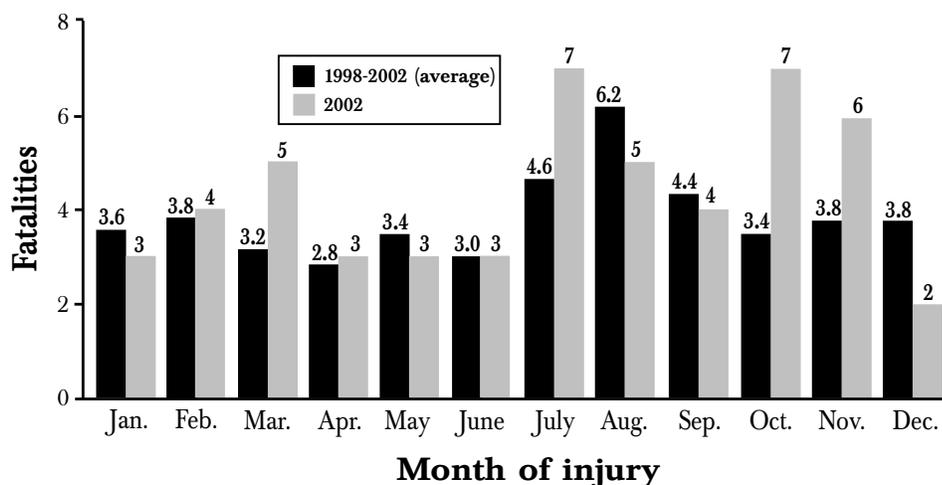
**Table 13. Compensable fatalities by tenure and age group, Oregon, 2002**

Tenure	AGE AT THE TIME OF INJURY										
	Total	20 & under	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61 & over
A month or less	7	1	1	1	0	3	0	0	0	0	1
2nd - 3rd months	4	0	2	1	0	0	0	0	0	0	1
4th - 6th months	3	0	0	0	1	0	2	0	0	0	0
7th - 12th months	2	0	0	1	0	0	0	0	0	1	0
2nd year	4	0	1	1	0	1	0	0	1	0	0
3rd year	2	0	0	1	0	0	0	0	0	0	1
4th - 5th years	5	0	0	1	0	1	1	1	1	0	0
6th - 10th years	10	0	1	0	2	1	4	2	0	0	0
11th - 25th years	8	0	0	0	3	1	2	0	1	0	1
26th and more	1	0	0	0	0	0	0	0	0	0	1
Unknown	6	0	0	1	1	0	1	1	0	1	1
<b>Total</b>	<b>52</b>	<b>1</b>	<b>5</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>10</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>6</b>

## Month of injury

On the average, most work-related fatalities during 1998-2002 occurred in August (see Figure 5). In 2002, December had the least number of fatalities, with two. July and October had the most, with seven fatalities each.

**Figure 5. Compensable fatalities by month of injury, Oregon, 2002**



**Table 14a. Work-related fatalities by month of injury, Oregon, 1993-2002**

<b>Month of injury</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
January	4	9	2	3	5	3	5	5	2	3	41
February	8	3	2	4	4	2	7	2	4	4	40
March	10	4	5	4	2	3	4	3	1	5	41
April	1	3	3	6	2	4	1	4	2	3	29
May	4	4	5	5	5	4	4	4	2	3	40
June	2	3	7	1	6	4	3	5	0	3	34
July	4	8	3	4	4	4	6	4	2	7	46
August	4	2	3	3	4	9	5	6	6	5	47
September	4	5	5	3	4	8	1	3	6	4	43
October	10	5	5	8	3	3	3	2	2	7	48
November	10	5	2	7	1	4	1	4	4	6	44
December	3	4	6	6	3	4	7	3	3	2	41
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 14b. Program-related fatalities by month of injury, Oregon, 1993-2002**

<b>Month of injury</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
January	2	4	0	1	2	2	1	2	1	0	15
February	6	2	0	2	3	0	5	1	2	3	24
March	7	3	2	1	0	1	0	1	1	5	21
April	0	0	1	5	0	1	0	3	2	1	13
May	1	3	3	3	1	3	2	1	1	1	19
June	1	2	4	1	4	2	3	2	0	1	20
July	1	6	1	3	3	2	4	3	2	6	31
August	3	2	2	3	2	7	4	4	1	4	32
September	0	1	3	3	3	4	0	2	5	1	22
October	7	5	4	3	1	1	3	2	1	3	30
November	7	3	1	3	0	2	1	3	2	4	26
December	1	4	1	2	3	4	4	2	2	1	24
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

*Note: These data reflect the month of injury for those claims accepted in the calendar year specified. Some workers died in a prior year or were injured in one month and died in another.*

## Region

Table 15 shows the most common types of fatalities in three regions of Oregon. Transportation accidents (consisting of highway motor vehicle, industrial vehicle, pedestrian, and aircraft accidents) were the most frequent type of accident in all three regions. They made up a larger proportion of the accidents in eastern Oregon (53.8 percent) than in the western Oregon area (27.3 percent).

Accidents in the “struck by or against” category, which is when workers are struck by an object or strike against a stationary or moving object, accounted for 22.7 percent of the deaths in western Oregon, but only accounted for 15.4 percent in the eastern Oregon area.

**Table 15. Compensable fatalities by accident event within regions, Oregon, 2002**

Region	Total	Struck by or against	Caught in/ under/ between	Falls	Other	Toxic/caustic substance	Hwy motor vehicle accident	Industrial vehicle accident	Pedestrian accident	Aircraft accident	Fires & explosions	Assault & violent
Eastern Oregon	13	2	2	0	1	0	4	2	1	0	1	0
Portland Metro	11	1	2	1	0	0	3	0	0	0	3	1
Western Oregon	22	5	3	2	0	1	3	1	1	1	3	2
Out of state	6	1	0	0	0	0	4	0	1	0	0	0
<b>Total</b>	<b>52</b>	<b>9</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>1</b>	<b>14</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>7</b>	<b>3</b>

## County of occurrence

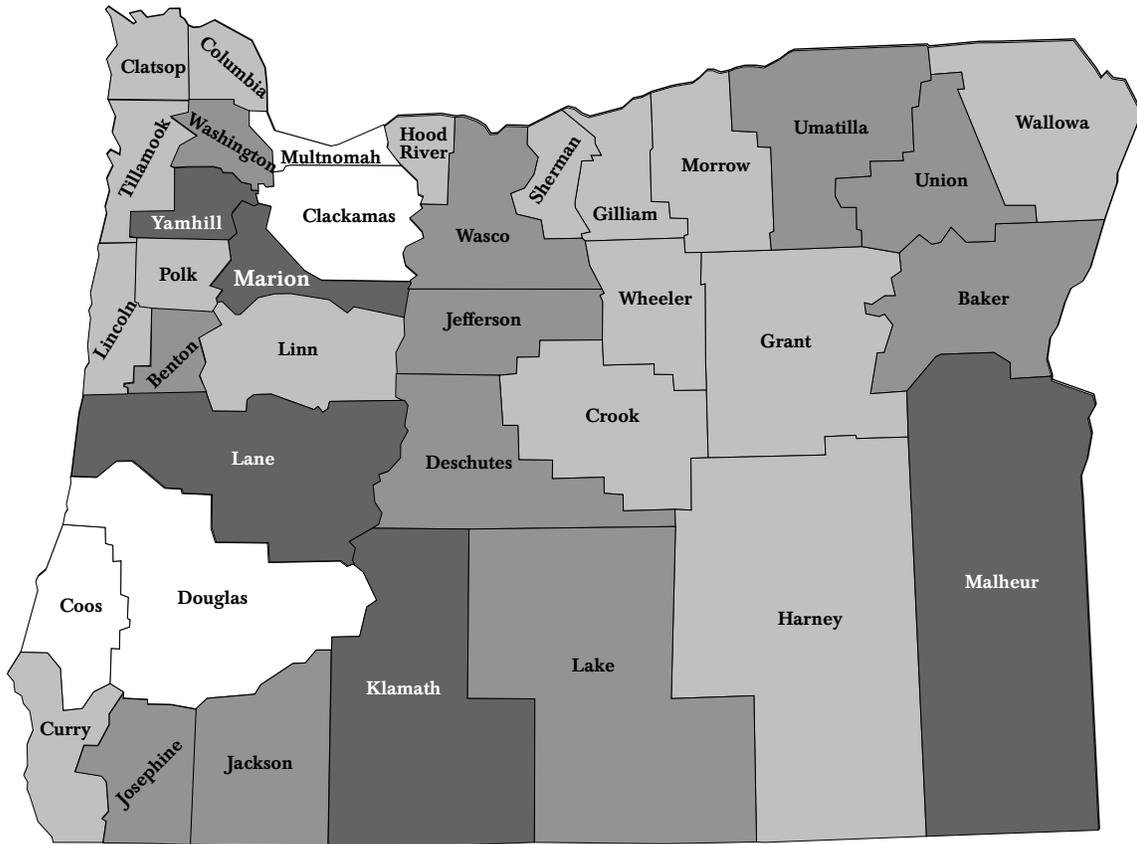
In Oregon, Multnomah and Coos counties had the most fatalities with six each, followed by Douglas County, with five (see Figure 6 and Table 16). In 2001, Multnomah County had the most fatalities, accounting for six.

The six fatalities in Multnomah County in 2002 consisted of a worker who was caught in machinery, two workers who died in highway motor-vehicle accidents, a worker killed in an explosion, a homicide victim, and a worker who was struck by falling equipment.

The six fatalities in Coos County consisted of three workers who died in a structure fire, a homicide victim, a worker who fell, and a worker who was struck by a falling tree.

Six of the 52 fatalities in 2002 occurred outside Oregon, compared to eight in 2001. In Washington, two truck drivers were killed in motor-vehicle accidents. In Tennessee, a truck-driving team of two workers was killed in a motor-vehicle accident. In Oklahoma, a truck driver was killed as a pedestrian, when struck by a truck. And, in Arizona, a falling branch struck a tree cutter.

Figure 6. Distribution of compensable fatalities by county of occurrence, Oregon, 2002



**Number of compensable fatalities**

- 4-6 (4 counties)
- 2-3 (5 counties)
- 1 (11 counties)
- 0 (16 counties)

Note: Six fatalities occurred outside Oregon.

**Table 16a. Work-related fatalities by county of occurrence, Oregon, 1993-2002**

County	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	Total
Baker	0	1	0	0	1	0	0	0	1	1	4
Benton	2	0	1	1	1	0	1	1	1	1	9
Clackamas	5	3	3	3	3	3	2	4	2	4	32
Clatsop	0	0	1	2	1	0	0	1	0	0	5
Columbia	0	2	0	1	0	0	1	0	1	0	5
Coos	2	0	2	2	1	0	3	3	0	6	19
Crook	1	1	0	2	0	1	0	1	0	0	6
Curry	1	1	0	0	0	1	0	0	0	0	3
Deschutes	3	2	2	0	0	2	0	1	0	1	11
Douglas	5	2	3	1	1	3	1	1	2	5	24
Gilliam	0	0	0	1	1	0	0	1	0	0	3
Grant	0	0	1	1	2	0	0	1	1	0	6
Harney	0	1	0	0	0	1	0	0	0	0	2
Hood River	0	0	0	1	0	0	0	1	1	0	3
Jackson	4	3	2	3	2	1	3	2	1	1	22
Jefferson	1	0	0	0	0	1	0	0	0	1	3
Josephine	0	0	0	0	0	1	1	0	0	1	3
Klamath	2	0	0	1	3	1	0	0	0	3	10
Lake	0	0	0	0	0	0	0	1	0	1	2
Lane	9	5	2	5	1	6	5	3	2	3	41
Lincoln	3	3	0	3	1	0	1	0	1	0	12
Linn	1	3	2	1	2	3	0	3	0	0	15
Malheur	0	1	0	0	1	0	0	0	0	3	5
Marion	1	2	1	4	1	4	5	1	3	3	25
Morrow	0	0	0	1	1	0	2	1	0	0	5
Multnomah	12	8	5	6	5	6	8	3	6	6	65
Polk	0	1	3	2	1	0	1	0	1	0	9
Sherman	0	0	0	0	0	0	0	1	0	0	1
Tillamook	3	0	0	1	1	1	1	1	2	0	10
Umatilla	0	2	1	2	0	2	2	0	0	1	10
Union	0	2	0	0	2	0	0	1	0	1	6
Wallowa	0	2	0	0	1	0	0	0	0	0	3
Wasco	0	2	0	1	1	0	0	0	0	1	5
Washington	4	2	8	0	3	1	3	1	0	1	23
Wheeler	0	0	0	0	2	0	0	0	0	0	2
Yamhill	0	1	0	1	1	3	3	2	1	2	14
Out-of-state	5	5	11	7	3	11	4	10	8	6	70
Unknown	0	0	0	1	0	0	0	0	0	0	1
<b>Total</b>	<b>64</b>	<b>55</b>	<b>48</b>	<b>54</b>	<b>43</b>	<b>52</b>	<b>47</b>	<b>45</b>	<b>34</b>	<b>52</b>	<b>494</b>

**Table 16b. Program-related fatalities by county of occurrence, Oregon, 1993-2002**

<b>County</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>Total</b>
Baker	0	0	0	0	0	0	0	0	1	0	1
Benton	2	0	1	1	0	0	1	0	1	0	6
Clackamas	5	2	3	1	3	3	2	4	2	3	28
Clatsop	0	0	0	1	1	0	0	1	0	0	3
Columbia	0	1	0	1	0	0	1	0	1	0	4
Coos	2	0	0	2	0	0	1	1	0	6	12
Crook	1	1	0	1	0	1	0	1	0	0	5
Curry	1	1	0	0	0	1	0	0	0	0	3
Deschutes	0	1	1	0	0	1	0	0	0	0	3
Douglas	3	2	2	1	0	2	1	1	1	4	17
Gilliam	0	0	0	0	1	0	0	1	0	0	2
Grant	0	0	1	1	1	0	0	1	1	0	5
Harney	0	0	0	0	0	0	0	0	0	0	0
Hood River	0	0	0	0	0	0	0	1	1	0	2
Jackson	2	3	1	3	1	0	2	2	0	1	15
Jefferson	0	0	0	0	0	0	0	0	0	0	0
Josephine	0	0	0	0	0	1	0	0	0	0	1
Klamath	1	0	0	1	2	1	0	0	0	2	7
Lake	0	0	0	0	0	0	0	1	0	0	1
Lane	4	3	1	5	1	4	4	2	2	2	28
Lincoln	3	1	0	2	0	0	1	0	0	0	7
Linn	1	3	0	1	2	2	0	3	0	0	12
Malheur	0	1	0	0	1	0	0	0	0	2	4
Marion	0	1	0	1	0	2	5	1	3	2	15
Morrow	0	0	0	0	1	0	2	1	0	0	4
Multnomah	6	4	4	3	4	5	3	2	4	4	39
Polk	0	1	2	1	0	0	1	0	1	0	6
Sherman	0	0	0	0	0	0	0	0	0	0	0
Tillamook	2	0	0	0	0	1	0	0	1	0	4
Umatilla	0	2	1	1	0	2	0	0	0	1	7
Union	0	2	0	0	1	0	0	1	0	0	4
Wallowa	0	2	0	0	0	0	0	0	0	0	2
Wasco	0	2	0	1	0	0	0	0	0	1	4
Washington	3	1	5	0	3	1	3	1	0	1	18
Wheeler	0	0	0	0	0	0	0	0	0	0	0
Yamhill	0	1	0	1	0	2	0	1	1	1	7
Unknown	0	0	0	1	0	0	0	0	0	0	1
<b>Total</b>	<b>36</b>	<b>35</b>	<b>22</b>	<b>30</b>	<b>22</b>	<b>29</b>	<b>27</b>	<b>26</b>	<b>20</b>	<b>30</b>	<b>277</b>

**Table 17. Listing of fatalities by industry, Oregon, 2002**

Event of injury	Program-related	Injury description	Age	Sex	Tenure	Injury mo/yr	County	Occupation	SIC
<b>Agriculture, forestry, fishing</b>									
Struck by	+	Struck by rolling tractor	52	M	15	07/02	Malheur	Farm worker	0191
Caught in	+	Caught in an irrigation spool	33	M	*	03/02	Marion	Farm hand	0191
HMV accident		Pickup truck collided with car in intersection	41	M	117	09/02	Malheur	Feedlot manager	0212
Industrial accident	+	Riding ATV vehicle and struck cable	34	M	153	10/02	Klamath	Ranch foreman	0139
Fire	+	Fire and explosion of a fuel tank	58	M	9	04/01	Klamath	Farm mechanic	0722
<b>Construction</b>									
Struck by	+	Struck by falling aircraft warning light	35	M	141	03/02	Umatilla	Electrician	1796
Fall	+	Fell through roof opening	28	M	3	08/02	Lane	Apprentice carpenter	1521
HMV accident		Semi-truck hit a light pole	26	M	*	06/02	Multnomah	Truck driver	1796
HMV accident		Car struck a tree	26	M	19	04/02	Yamhill	Carpenter supervisor	1751
HMV accident		Van ran off road and overturned	28	M	1	07/02	Clackamas	Construction laborer	1751
Pedestrian	+	Pedestrian struck by dump truck	24	M	2	10/02	Jackson	Grade checker	1611
<b>Other manufacturing</b>									
Caught in	+	Caught in running machinery	25	F	23	08/02	Multnomah	Mach. maint. worker	3411
Caught in	+	Caught under rolling bale of paper	34	M	84	02/02	Clackamas	Baler	2621
Collapsing material		Engulfed in a silo of dry materials	23	M	65	01/02	Baker	Utility worker	3274
Exposure to	+	Electrocuted and then wedged in machinery	38	M	194	06/02	Wasco	Salesman	3086
HMV accident		Car struck oncoming dump truck	21	F	3	10/02	Marion	Secretary	3312
Industrial accident		Dump truck overturned into pit of water	51	F	296	10/02	Union	Dump truck driver	3273
Fire	+	Explosion of flour dust	44	M	201	07/02	Multnomah	Electrical estimator	3823
<b>Logging</b>									
Struck by	+	Struck by falling tree	23	M	1	03/02	Yamhill	Choker setter	2411
Struck by		Struck by falling branch	41	M	*	12/02	Out-of-state	Tree cutter	2411
Struck by	+	Struck by falling tree	48	M	55	08/02	Coos	Log loader operator	2411
Struck by	+	Struck by falling tree	73	M	1	07/02	Douglas	Timber faller	2411
Struck by	+	Struck by falling tree	44	M	6	02/02	Douglas	Hook tender	2411
Struck by	+	Struck by rolling log	29	M	9	10/02	Douglas	Rigging slinger	2411
HMV accident		Pickup truck ran off the road and overturned	19	M	1	08/02	Klamath	Firewatchman	2411
<b>Sawmills</b>									
Caught in	+	Caught in a keyed shaft of board planer	31	M	147	03/02	Douglas	Grader	2421
<b>Other woods</b>									
Caught in	+	Caught in glue line conveyor	61	M	517	08/02	Lane	Millworker foreman	2436
HMV accident		Semi-truck struck concrete divider	63	M	*	10/02	Lane	Truck driver	2436

Notes: + indicates the fatality was program-related.

Tenure is given in months.

\* indicates the tenure is not known.

Table 17. Listing of fatalities by industry, Oregon, 2002, *continued*

Event of injury	Program-related	Injury description	Age	Sex	Tenure	Injury mo/yr	County	Occupation	SIC
<b>Transportation, public utilities</b>									
HMV accident		Semi-truck collided with vehicle	63	M	2	06/02	Out-of-state	Truck driver	4213
HMV accident		Semi-truck collided with oncoming semi-truck	39	M	0	10/02	Lake	Truck driver	4212
HMV accident		Semi-truck collided with oncoming semi-truck	40	F	1	11/01	Out-of-state	Truck driver	4213
HMV accident		Semi-truck collided with oncoming semi-truck	37	M	1	11/01	Out-of-state	Truck driver	4213
HMV accident		Semi-truck overtuned	45	M	59	02/02	Deschutes	Truck driver	4212
Pedestrian		Pedestrian struck by	45	M	5	01/02	Out-of-state	Truck driver	4213
<b>Wholesale trade</b>									
HMV accident		Vehicle hit a tree	42	M	91	04/02	Out-of-state	Parts delivery driver	5013
<b>Retail trade</b>									
Caught in	+	Caught between loader bucket and frame	45	M	76	02/02	Malheur	Yard supervisor	5211
Assault and violent acts	+	Homicide - shot during robbery	30	M	27	05/02	Coos	Burl & log buyer	5211
Assault and violent acts	+	Homicide - shot during robbery	49	M	*	12/01	Multnomah	Conv. store clerk	5411
<b>Services</b>									
Struck by	+	Struck by falling crane equipment	40	M	67	09/02	Multnomah	Oiler worker	7353
Fall	+	Fell on same level	52	F	56	07/02	Washington	Unit secretary	8062
Inhalation of		Asbestosis	59	M	*	09/85	Benton	Asst. chief engineer	7062
Explosion	+	Explosion of tank	61	M	36	07/02	Clackamas	Chemist	8731
Explosion	+	Explosion of tank	38	M	24	07/02	Clackamas	Electrical engineer	8731
<b>Government</b>									
Fall	+	Fell 25 feet from an electric pole	47	M	93	03/01	Coos	Utility lineman	9131
HMV accident		Car crashed into wall	32	M	6	05/02	Multnomah	Police officer	9221
Industrial accident	+	Ran 3-wheel loader off road and it overturned	70	M	149	11/01	Marion	Volunteer camp host	9512
Pedestrian		Pedestrian struck by a semi-truck	45	M	83	01/02	Jefferson	EMT	9224
Aircraft accident		Helicopter struck wire and crashed	46	M	102	05/02	Josephine	Marine patrol deputy	9221
Fire	+	Fire - structure collapsed	30	M	37	11/02	Coos	Volunteer firefighter	9224
Fire	+	Fire - structure collapsed	33	M	106	11/02	Coos	Volunteer firefighter	9224
Fire	+	Fire - structure collapsed	45	M	166	11/02	Coos	Lt. firefighter	9224
Assault and violent acts		Homicide - shot in the head	38	M	37	09/02	Douglas	Deputy sheriff	9221

Notes: + indicates the fatality was program-related.

Tenure is given in months.

\* indicates the tenure is not known.

**Table 18. Historical record of compensable fatalities**

**Compensable fatalities by industry, Oregon, 2002-1995**

Industry	2002	2001	2000	1999	1998	1997	1996	1995
Agriculture, forestry, fishing <sup>1</sup>	5	3	5	3	9	4	1	3
Mining	0	0	1	0	2	1	2	1
Construction	6	4	3	5	4	11	5	14
Manufacturing subtotal	17	10	18	14	17	6	16	5
Logging <sup>2</sup>	7	5	9	2	7	1	9	3
Sawmills	1	0	0	3	0	1	2	0
Other wood products	2	1	3	3	3	0	1	0
Other manufacturing	7	4	6	6	7	4	4	2
Transportation, public utilities	6	7	8	9	8	5	10	8
Wholesale trade <sup>3</sup>	1	1	1	1	2	2	4	2
Retail trade <sup>3</sup>	3	3	1	2	5	6	3	4
Finance, insurance, real estate <sup>3</sup>	0	0	1	1	0	1	2	2
Services <sup>3</sup>	5	2	6	6	4	4	7	8
Government	9	4	1	6	0	4	5	1
<b>Total</b>	<b>52</b>	<b>34</b>	<b>45</b>	<b>47</b>	<b>52</b>	<b>43</b>	<b>54</b>	<b>48</b>

**Compensable fatalities by industry, Oregon, 1994-1985**

Industry	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985
Agriculture, forestry, fishing <sup>1</sup>	4	6	10	5	3	3	8	2	6	3
Mining	0	1	0	0	0	0	0	1	0	1
Construction	9	11	6	11	8	10	9	9	7	11
Manufacturing subtotal	14	20	11	28	36	33	33	25	32	39
Logging <sup>2</sup>	7	11	3	13	19	22	22	15	25	27
Sawmills	3	2	3	4	5	1	3	0	2	3
Other wood products	1	1	3	2	3	4	5	4	2	4
Other manufacturing	3	6	2	9	9	6	3	6	3	5
Transportation, public utilities	4	9	9	4	7	8	10	15	20	9
Wholesale trade <sup>3</sup>	3	2	5	2	2	2	2	5	1	4
Retail trade <sup>3</sup>	7	4	5	1	3	5	3	8	4	2
Finance, insurance, real estate <sup>3</sup>	0	1	0	1	1	0	1	1	2	9
Services <sup>3</sup>	8	4	8	11	4	10	6	10	9	5
Government	4	7	8	3	0	3	10	2	3	9
<b>Total</b>	<b>55</b>	<b>64</b>	<b>63</b>	<b>65</b>	<b>64</b>	<b>75</b>	<b>81</b>	<b>78</b>	<b>84</b>	<b>84</b>

<sup>1</sup> Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

<sup>2</sup> Logging includes log hauling from 1945-71.

<sup>3</sup> Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75.

Retail trade was included with wholesale trade from 1976-79.

Note: Fatalities are classified according to the 1987 edition of the Standard Industrial Classification Manual.

Table 18. Historical record of compensable fatalities, *continued*

Compensable fatalities by industry, Oregon, 1984-1975

Industry	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975
Agriculture, forestry, fishing <sup>1</sup>	10	7	5	10	4	22	2	6	5	9
Mining	1	0	0	0	3	3	1	2	0	0
Construction	10	11	7	10	13	11	22	11	10	15
Manufacturing subtotal	30	40	21	24	33	52	47	61	51	52
Logging <sup>2</sup>	18	24	14	10	18	26	29	37	28	25
Sawmills	2	6	1	3	1	12	5	7	8	8
Other wood products	3	2	2	4	5	5	7	8	4	5
Other manufacturing	7	8	4	7	9	9	6	9	11	14
Transportation, public utilities	10	12	10	12	7	21	15	9	7	19
Wholesale trade <sup>3</sup>	2	4	7	6	7	14	16	16	13	25
Retail trade <sup>3</sup>	4	8	5	2	5					
Finance, insurance, real estate <sup>3</sup>	4	3	0	1	4	2	0	1	1	
Services <sup>3</sup>	4	7	3	6	4	7	7	6	7	
Government	8	5	9	4	8	5	12	12	10	12
<b>Total</b>	<b>83</b>	<b>97</b>	<b>67</b>	<b>75</b>	<b>88</b>	<b>137</b>	<b>122</b>	<b>124</b>	<b>104</b>	<b>132</b>

Compensable fatalities by industry, Oregon, 1974-1965

Industry	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965
Agriculture, forestry, fishing <sup>1</sup>	6	8	6	7	12	17	11	8	5	2
Mining	3	3	1	1	3	2	5	1	1	3
Construction	17	14	24	15	15	19	16	21	21	27
Manufacturing subtotal	48	65	46	59	61	46	51	50	70	35
Logging <sup>2</sup>	26	37	26	42	37	28	40	32	45	20
Sawmills	6	14	4	4	4	8	5	6	5	2
Other wood products	2	4	6	4	6	3	2	1	7	1
Other manufacturing	14	10	10	9	14	7	4	11	13	12
Transportation, public utilities	26	17	15	14	12	2	10	15	12	13
Wholesale trade <sup>3</sup>	13	26	30	21	25	29	17	30	12	9
Retail trade <sup>3</sup>										
Finance, insurance, real estate <sup>3</sup>										
Services <sup>3</sup>										
Government	10	11	11	15	9	16	8	11	5	10
<b>Total</b>	<b>123</b>	<b>144</b>	<b>133</b>	<b>132</b>	<b>137</b>	<b>131</b>	<b>118</b>	<b>136</b>	<b>126</b>	<b>99</b>

<sup>1</sup> Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

<sup>2</sup> Logging includes log hauling from 1945-71.

<sup>3</sup> Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75.

Retail trade was included with wholesale trade from 1976-79.

Note: Fatalities are classified according to the 1987 edition of the Standard Industrial Classification Manual.

**Table 18. Historical record of compensable fatalities, *continued***

**Compensable fatalities by industry, Oregon, 1964-1955**

<b>Industry</b>	<b>1964</b>	<b>1963</b>	<b>1962</b>	<b>1961</b>	<b>1960</b>	<b>1959</b>	<b>1958</b>	<b>1957</b>	<b>1956</b>	<b>1955</b>
Agriculture, forestry, fishing <sup>1</sup>	2	4	4	5	7	9	2	6	10	6
Mining	5	2	3	2	5	2	0	3	0	3
Construction	11	15	29	20	18	15	28	25	22	12
Manufacturing subtotal	48	52	46	59	65	77	61	70	81	97
Logging <sup>2</sup>	34	35	32	37	40	59	42	50	64	70
Sawmills	3	5	3	7	3	9	7	11	5	14
Other wood products	3	3	6	4	8	4	3	7	5	5
Other manufacturing	8	9	5	11	14	5	9	2	7	8
Transportation, public utilities	6	6	7	6	6	6	9	5	8	5
Wholesale trade <sup>3</sup>	14	18	17	12	16	9	13	10	7	13
Retail trade <sup>3</sup>										
Finance, insurance, real estate <sup>3</sup>										
Services <sup>3</sup>										
Government	10	9	9	9	9	10	7	8	12	5
<b>Total</b>	<b>96</b>	<b>106</b>	<b>115</b>	<b>113</b>	<b>126</b>	<b>128</b>	<b>120</b>	<b>127</b>	<b>140</b>	<b>141</b>

**Compensable fatalities by industry, Oregon, 1954-1945**

<b>Industry</b>	<b>1954</b>	<b>1953</b>	<b>1952</b>	<b>1951</b>	<b>1950</b>	<b>1949</b>	<b>1948</b>	<b>1947</b>	<b>1946</b>	<b>1945</b>
Agriculture, forestry, fishing <sup>1</sup>	6	4	9	4	4	7	7	9	7	13
Mining	2	1	0	6	0	3	2	1	0	2
Construction	20	15	19	33	18	21	18	19	19	12
Manufacturing subtotal	80	81	102	86	111	65	89	89	74	72
Logging <sup>2</sup>	48	58	67	68	90	50	65	50	33	32
Sawmills	20	13	26	14	13	8	15	27	27	17
Other wood products	2	7	2	0	1	2	1	1	1	0
Other manufacturing	10	3	7	4	7	5	8	11	13	23
Transportation, public utilities	6	8	8	8	3	10	6	9	13	5
Wholesale trade <sup>3</sup>	22	8	8	8	2s9	12	8	7	7	9
Retail trade <sup>3</sup>										
Finance, insurance, real estate <sup>3</sup>										
Services <sup>3</sup>										
Government	7	8	10	5	10	11	8	7	3	4
<b>Total</b>	<b>143</b>	<b>125</b>	<b>156</b>	<b>150</b>	<b>155</b>	<b>129</b>	<b>138</b>	<b>141</b>	<b>123</b>	<b>117</b>

<sup>1</sup> Agriculture, forestry & fishing excludes forestry and fishing from 1966-71.

<sup>2</sup> Logging includes log hauling from 1945-71.

<sup>3</sup> Finance, insurance & real estate, wholesale trade, retail trade, and services were combined from 1945-75.

Retail trade was included with wholesale trade from 1976-79.

Note: Fatalities are classified according to the 1987 edition of the Standard Industrial Classification Manual.

**Table 18. Historical record of compensable fatalities, *continued***

**Compensable fatalities by industry, Oregon 1944-1943**

<b>Industry</b>	<b>1944</b>	<b>1943</b>
Logging and log hauling	42	53
Sawmills and allied	9	14
Shipbuilding	24	34
Other industries	47	61
<b>Total</b>	<b>122</b>	<b>162</b>

*Note: The data were derived from SIAC Statistical Analysis of Claims for 1943-1965, APD annual fatality reports for 1966-1971, WCB annual fatality summaries for 1972-1975 (except mining), Oregon Work Injuries and Illnesses for 1976-87, and the Oregon Industrial Fatality Report since 1988.*

*Data from 1980 forward were coded using the 1987 edition of the Standard Industrial Classification Manual. The earlier data remain coded according to the classification originally used.*

*Not all of the recorded fatalities from 1966-76 were accepted as compensable claims.*

# Appendix A

## Glossary

### **Accepted fatality claim:**

A claim accepted by an insurer for fatality benefits and received by the Workers' Compensation Division. Also called a compensable fatality.

### **Occupation:**

Identification of the nature of work of the employee. The occupation is classified in accordance with the Bureau of Labor Statistics' Occupational Coding Manual.

### **Program-related fatality:**

A compensable fatality that might have been prevented by following a specific safety regulation, general duty clause, or good safety and health practices. (For specific criteria, see Appendix B.)

### **Standard industrial classification (SIC):**

A classification system developed by the Office of Statistical Standards, Executive Office of the President/Office of Management and Budget, for use in classifying firms by the type of activity in which they engage. Each establishment of a firm is assigned an industry code for its major activity, which is determined by the product or group of products produced or services rendered. The 1987 SIC manual was used for coding fatalities from 1980.

### **Tenure:**

The length of time, in months, that an employee had been working for the employer at the time of the fatal injury or the diagnosis of the fatal illness.

### **The department:**

Oregon Department of Consumer & Business Services.

### **Accident event or exposure:**

Identification of the event or exposure situation that directly resulted in the injury or illness.

# Appendix B

## **Scope and methodology**

### **Scope**

The data presented in this report are based on accepted disabling-work-injury-and illness-claim documents received by the Workers' Compensation Division of the Department of Consumer & Business Services during the 2002 calendar year for employees covered by Oregon Workers' Compensation law. The law covers every employer who employs one or more subject workers in Oregon. Excluded from mandatory coverage are the following nonsubject workers: household employees; casual labor; employees subject to federal laws (Railroad Retirement Act, Federal Longshoremen's and Harbor Workers' Compensation Act, Jones Act, and Federal Employees' Compensation Act); City of Portland police and firefighters; workers engaged in the transportation of interstate commerce of goods, persons, or property by rail, water, aircraft, or motor vehicle and whose employer has no fixed place of business in Oregon; sole proprietors; partners and officers of corporations; amateur athletes; newspaper carriers; employees of religious, charitable, or relief organizations who work primarily for board and lodging or who receive only nominal reimbursements; owners of boating equipment engaged in the transportation of the public for recreational down-river boating activities pursuant to a federal permit; and owners and leaseholders of motor vehicles used as taxicabs or to transport logs, poles, pilings, rocks, gravel, sand, dirt, or asphalt concrete (see ORS 656.027). Any employer who has nonsubject workers may elect coverage by purchasing workers' compensation insurance to cover compensation liability.

Due to an increased demand by users for a more detailed coding structure, the Bureau of Labor Statistics (BLS) recognized that a new, comprehensive, and detailed coding scheme would be needed.

Starting in 1992, the new classification structure known as the Occupational Injury and Illness Classification System was implemented by the BLS. In 1996, Oregon converted the old coding structure to the new redesigned coding. As a result of this change, "Type of Accident" is now "Accident event." Historical data were also converted to the new coding structure. As a result, data may differ from previous years' publications.

The BLS Occupational Injury and Illness Classification System enables safety and health professionals and other data users to better monitor work injuries and illnesses, educate workers about hazards associated with various jobs, promote safer work practices through enhanced job safety training, develop new safety equipment, assess and improve workplace safety standards, and target research.

## Appendix B, *continued*

### Methodology

Fatal claims are reported to the Workers' Compensation Division on Form 801, Worker's and Employer's Report of Occupational Injury or Disease. The Workers' Compensation claims file is matched with the employer file to obtain the SIC. The victim's age, sex, tenure, and the county of occurrence are obtained directly from the claim document. Data are subject to change due to new, updated information and may differ slightly from previous years' publications.

The nature of business of the employer is classified according to the Standard Industrial Classification Manual, 1987 Edition. The industrial code (SIC) is assigned to the employer registration account. The industrial groupings used in this report are defined as follows:

Industry	2-digit SIC
Agriculture, forestry, fishing .....	01-09
Mining.....	10-14
Construction .....	15-17
Manufacturing .....	20-39
Logging .....	(241)
Sawmills .....	(242)
Other wood.....	(243-249)
Other manufacturing .....	(20-23, 25-39)
Transportation, public utilities.....	40-49
Wholesale trade.....	50-51
Retail trade.....	52-59
Finance, insurance, real estate .....	60-67
Services .....	70-89
Government .....	91-97

Note that government claims include all claims against publicly owned employers, regardless of the SIC assigned.

Claims for workers employed by leasing companies are counted in the industry in which they were employed at the time of injury, i.e. the SIC of the client employer.

Fatalities for the years 1980-88 were reclassified from the 1972/1977 Edition SICs to 1987 Edition SICs. This conversion resulted in a recount of 1988 fatalities.

## Appendix B, *continued*

The occupation of the worker is classified in accordance with the Bureau of Labor Statistics Occupational Coding Manual. The occupational groupings used in this report:

Occupation	Codes
Professional and managerial .....	003 - 199
Technical, administrative support .....	203 - 235 and 303 - 389
Sales occupations .....	243 - 280
Service occupations.....	400 - 469
Farm laborers and managers .....	470 - 489
Loggers, foresters, fishers .....	494 - 499 and 890 - 901
Mechanics and repairers .....	503 - 549
Construction trades.....	550 - 599
Precision products, mining.....	613 - 699
Operators, except transport .....	704 - 799
Transport equipment operators .....	803 - 859
Laborers, except farm .....	863 - 899

A fatal case is recorded as program-related if it occurred at a workplace over which the Oregon Occupational Safety and Health Division had the primary jurisdiction, and OR-OSHA plans to conduct an investigation. OR-OSHA would investigate an incident based on the assumption that the fatal injury or illness resulted from the violation of a specific Oregon Safe Employment Act rule or the general duty clause. OR-OSHA would also investigate if there was a violation of a good safety or health practice that would be the subject of a safety or expanded enforcement letter. The plans to investigate an incident are indicated on the OR-OSHA 36(S) form.

If there is not an OR-OSHA 36(S) form, the case is recorded as program-related if the narrative description of the case indicates that there is a high probability that the injury or illness resulted from a violation of a specific Oregon Safe Employment Act rule, general duty clause, or good safety and health practice.

Fatalities that occur out-of-state are not considered to be under this jurisdiction. Transportation accidents are rarely considered to be program-related since there are too many variables for safety regulations to attempt to control. Homicides are not regarded as program-related.

## Appendix C

### ***Descriptions of 2002 fatal compensable injuries and illnesses by industry***

#### **Agriculture, forestry, fishing – 5 fatalities**

##### **SIC 01-09**

- A farm worker was gathering rocks and filling rock cribs using a tractor with a front-end loader. The tractor was turned off and parked on steep, sloping ground. The victim dismounted without setting the parking brake. The tractor began rolling and the victim climbed into the cab to stop the runaway tractor, which rolled over several times. The worker was ejected and killed when the tractor rolled over him. A seat belt was not worn (program-related).
- A farm worker became entangled or trapped between the reel spoke and the frame-to-reel support steel of a big gun hose reel (irrigation spool) used to irrigate fields. The worker had been painting the interior of the drum while it was in motion and got caught between the two pieces (program-related).
- A feedlot manager was driving the company pickup (towing a 20-foot gooseneck trailer) into town to pick up supplies. A car driven by an unlicensed teenager ran a stop sign and struck the victim's pickup broadside in an intersection. The victim was ejected when the pickup truck left the roadway and rolled several times. Houses, fence, trees, and shrubbery substantially obscured the visibility at the intersection. A seat belt was not worn. The other vehicle's speed was determined to be a factor.
- A ranch foreman drove a four-wheeled vehicle (ATV) through a pasture at about 10 mph looking for a lost cell phone. The victim was using a co-worker's phone to call his phone and was looking at the ground and listening for his phone. The sun made it difficult to see the unmarked guy lines supporting an irrigation system. The  $\frac{1}{4}$ " cable deflected from the front of the ATV and struck the victim's neck, knocking him from the ATV. The worker died of neck injuries (program-related).
- A farm mechanic was welding a 6-8-inch eye to the top of a 500-gallon metal tank that was to be mounted on the back of a truck. The tank, which hadn't been used in a year, may have contained diesel or gasoline fumes. Either a welding spark or the warmth of the sun created a spark through a pinhole in the tank, and it exploded. The victim had second- and third-degree burns over 73 percent of his body (program-related).

## Appendix C, *continued*

### Construction – 6 fatalities

#### SIC 15-17

- An electrician was on a platform 130 feet up an exhaust stack at a power plant, trying to fix an aircraft warning light. The catch mechanism came free on the 100-pound light as the victim was attempting to connect the light to a portable winch for lowering. The light became detached, fell, and struck the victim's head. The worker was wearing a hardhat, but it broke when it was struck by the light fixture (program-related).
- An apprentice carpenter was on a roof removing excess wood and stacking it on a rolling cart. He removed a piece of plywood that covered an opening in the roof and fell through the opening, about 45 feet to a concrete floor. The warehouse building was under construction, and the hole was for a hatch in the roof (program-related).
- A truck driver was merging with traffic on a freeway ramp after making a delivery. He noticed a car in the lane he was about to enter (blind spot) and swerved to avoid collision. The truck ran off the road and struck a light pole, a sewer culvert, and the pylons of an overhead sign, and then the trailer rolled over onto the cab. The driver wore a seat belt. Wet roads may have contributed to the incident.
- A carpenter supervisor was driving a pickup to the shop to get materials for a job. He was traveling 62 mph in a 55-mph speed zone. He braked and skidded into a curve, but was unable to negotiate the corner. The brakes locked up, causing the pickup to leave the roadway, go down an embankment, and strike a large tree. He was not wearing a seat belt.
- A construction laborer was a passenger in a van on the highway. When a rear tire popped, the driver lost control of the van, which ran off the road and rolled. The side door opened during the accident and ejected the passengers, then the van landed upside down. The passengers were not wearing seat belts. The bench-type passenger seat did not appear to have been bolted in place. The road was dry.
- A grade checker, with his back turned to a dump truck, was kneeling to check the road grade and looking through his hand level at a grade stake. The dump truck backed over him. The truck's back-up alarm sounded (program-related).

## Appendix C, *continued*

### Manufacturing – 17 fatalities

#### SIC 20-39

- A machine maintenance worker was removing metal shavings from a machine that transfers partially manufactured tin cans from the slitter, which cuts the tin, to the rolling and welding machine. Opening the access door to the transfer machine automatically shuts off the machine, but the door swung shut, and the machine restarted. A robotic gantry head came down to pick up the cans, compressing the victim's head. The worker was wearing earplugs, which may have prevented him from hearing the machine restart (program-related).
- A baler was working in the de-inking area of a paper recycler. He had been unloading bales of waste paper (1,600-2,000 lbs.) with a forklift and cutting the wire binders. He climbed onto an incline conveyor to cut the wire on a bale and another bale rolled onto him (program-related).
- A utility worker was cleaning out a silo of dry materials (cement additive). The cement additive stopped flowing, so the crew was lancing it through the discharge draw points to loosen it. The worker entered the silo and walked onto the buildup, which was about 10 feet deep, and probed with a steel rod to break up any material plugs. The victim began to sink in cement. Rescue attempts were unsuccessful. The lifeline was not tightened regularly.
- A salesman was using an electric foam cutter. The victim's necklace contacted the electrical cutting wire, and his legs were in contact with the steel frame of the machine, grounding the electrical current. After the shock, the victim fell into a confined space and was wedged into the machine. The machine guards had been removed and the safety interlock switch bypassed (program-related).
- A secretary was driving to get parts and was involved in a collision with a dump truck. The victim's car crossed the center line, sideswiped a dump truck, and struck the truck trailer head-on. The dump truck had swerved onto the shoulder to avoid collision. The victim was not wearing a seat belt. The roads were dry and clear.
- A dump-truck driver was hauling waste earth and rock and dumping it into a water-filled pit at a sand-and-gravel operation. The dump truck was backing toward the dump berm when the ground slipped under the truck, causing it to slide and roll down a 30-foot embankment. It landed upside down in four feet of water. The driver was not wearing a seat belt.
- An electrical estimator was in a small electrical room at a flour mill, taking measurements of an electrical main buss-bar assembly for replacement of a main circuit breaker. There was a significant amount of flour dust in the room. A wooden ruler used for the measurement may have helped create an arc, which ignited the dust, creating a huge fireball that engulfed the victim, throwing him 15 feet. The victim was burned on more than 88 percent of his body (program-related).
- A choker setter was on a crew hauling logs out of a deep ravine to a landing. A 200-foot-tall tree being used as a skyline anchor uprooted, fell, and struck the victim. The cause of death was head injuries. High winds, wet ground, root rot, and rocky terrain may have contributed to the incident. The worker was wearing a hardhat (program-related).

## Appendix C, *continued*

- A timber faller was cutting a large tree when a partially burned branch fell and struck him on the head. The worker was wearing a hardhat. The incident occurred in Arizona.
- A log loader operator and a co-worker were felling a 120-foot alder tree with a diameter of 12 inches, when the tree caught the saw blade. They attempted to push the tree over, to no avail. The co-worker tried to dislodge the tree with a loader and left the victim in the “safe zone.” The victim began to buck and limb a tree 90 feet out of the safe zone. The alder fell, and the victim tried to jump out of the way (losing his hardhat), but was struck in the head by the tree (program-related).
- A timber faller cut a large tree, and it pivoted on another tree, slid backwards, and fell onto the victim – pinning his head to the ground approximately 18 feet behind the stump. He was wearing protective equipment (hardhat and safety shoes). He was the oldest worker, age 73 (program-related).
- A hook tender was struck by the top half of a maple tree, that was broken when the tail-hold tree (about four feet in diameter, 200 feet tall) fell over. Conditions included wet ground from a recent rain (program-related).
- A rigging slinger was setting chokers with crew members to pull logs up an 80 percent or steeper slope. The crew moved 50 to 80 feet sidehill of the skyline and the load headed up the hill and caught on a rock bluff. Two chokers broke, releasing three logs more than 60 feet long down the hill at an angle. One of the rolling logs struck the victim and threw him into the creek bottom. He was not in the safe area. Protective equipment was worn. The day was foggy (program-related).
- A fire watchman was driving a pickup at least 70 mph to a jobsite; he attempted to negotiate a curve to the left. The pickup’s right tires went onto the graveled shoulder and lost traction, causing the vehicle to spin and roll. The vehicle collided with a boulder, continued to spin, and dropped 12 feet into the dry creek bed below. The driver was not wearing a seat belt. He was the youngest worker, age 19.
- A grader at a sawmill was pulling short lumber off a green chain and keeping a wax reservoir full. While putting a bar of wax into the container, the victim’s long, loose-fitting shirt got caught on an unguarded keyed shaft of a board planer and wrapped around it. The worker was pulled into the rotating drive shaft and was fatally injured (program-related).
- A plywood-mill foreman, on a glue line, was attempting to remove a glue nozzle at one of the spray booths about the same time electricians were checking for problems with the conveyor. During electrical repair, the belt was started intermittently and run for several feet. The foreman was caught in the glue line conveyor and crushed between the catwalk and the conveyor flights (program-related).
- A truck driver was hauling plywood across a temporary bridge with concrete dividers, when the trailers began to swerve, bouncing off the dividers, and toppled over. The driver was trapped inside the cab and was communicating with bystanders when the truck burst into flames. His death was due to asphyxia from a mix of diesel and motor oil and burns to more than 90 percent of his body.

## Appendix C, *continued*

### Transportation, public utilities – 6 fatalities

#### SIC 40-49

- A truck driver lost control of his vehicle on the highway. The vehicle hit two other vehicles and then overturned. The incident occurred in Washington.
- A truck driver was hauling perlite on a highway when the truck was sideswiped by an oncoming semi-truck whose driver had lost control when his load shifted. The driver's side of the victim's truck was destroyed, and his truck ran off the road.
- A truck driver and his partner were driving in a semi-truck when another semi-truck crossed the median, and they collided head-on. The driver was wearing a seat belt but the partner was in the sleeper berth and was not wearing any restraints. Both were killed. The incident occurred in Tennessee.
- A truck driver was driving a truck and double trailer loaded with recycled glass. There was black ice on the highway. The semi-truck started to slide as it descended a hill. The rear trailer slipped onto the shoulder, and the vehicle went down the embankment and overturned. The tractor and first trailer over-corrected and left the roadway and overturned onto the driver's side, trapping the driver.
- A truck driver who had stopped to assist at the scene of an accident was struck by another vehicle, along with two other pedestrians and the cars in the original accident. The incident occurred in Oklahoma.

### Wholesale trade – 1 fatality

#### SIC 50-51

- A parts-delivery driver's vehicle went off the road and hit a tree. The driver was wearing a seat belt.

## Appendix C, *continued*

### Retail trade – 3 fatalities

#### SIC 52-59

- A yard supervisor was operating a skid-steer loader and was back blading an area of the lumber yard. The victim stood up inside the operator's compartment and leaned out the front of the cab while the boom was elevated (possibly to check the level). The victim's foot engaged the foot control for the boom, causing the boom to lower and strike him in the head. The victim's body was trapped between the boom and frame. The auto shut-off mechanism of the loader had been disabled (program-related).
- A burl and log buyer, looking for burls on the beach, was shot and robbed. The victim died of multiple bullet wounds (program-related).
- A convenience-store clerk was killed in a robbery. The robber demanded cigarettes and the clerk cooperated, but the robber shot the clerk twice in the back and left without the cigarettes (program-related).

### Services – 5 fatalities

#### SIC 70-89

- An oiler worker, helping to set up a 130-ton crane at a hospital, was crushed by an A-frame stand for a butt jib. A crane operator had lifted the butt jib and attempted to swing it into position, but the butt jib hit the A-frame of the trailer, which came out of its holder and struck the victim in the chest. The boom of the crane was lowered to avoid a tree, but lowering the boom had caused it to become unstable (program-related).
- A unit secretary was leaving her workstation at the hospital when she tripped and fell on the carpet in the lobby. She was admitted to the hospital with a femur fracture, but died from sleep apnea (Pickwickian syndrome) attributed to her weight. The femur fracture contributed to the death (program-related).
- An assistant chief engineer was exposed to asbestos insulation on the pipes and gaskets of a steam boiler in a hospital over several years. He developed asbestosis and mesothelioma.
- A chemist and electrical engineer were experimenting with a system designed to add oxygen to water in animal husbandry. An 80-gallon steel water-storage tank was used as a reservoir for this process. During electrolysis, oxygen and hydrogen gas accumulated in the tank. The chemist was removing a plug from the top of the tank when the pressurized tank exploded. Both workers were killed (program-related).

## Appendix C, *continued*

### Government – 9 fatalities

#### SIC 91-97

- A utility lineman working 25 feet above ground on an electric pole suffered a heart arrhythmia, lost consciousness, slid down the pole, and landed on a small stump. He was wearing a harness and helmet (program-related).
- A police officer lost control of a patrol car at 92 mph and crashed head-on into a concrete-block privacy wall while responding to a call with emergency lights on (no siren). A car pulling into the roadway caused the officer to swerve onto roadside gravel. The officer was wearing a seat belt and the car's airbags inflated.
- A volunteer camp host was operating a three-wheel loader near the parking lot of a state park. He was moving signs when the vehicle left the roadway and crashed into a ditch, partially ejecting him. The vehicle rolled onto him and he suffocated (program-related).
- An EMT was struck by a semi-truck while setting up flares near a car crash. The ambulance had parked on the shoulder, partially in the oncoming lane. A truck driver saw the vehicle's headlights in his lane, braked, and swerved to avoid collision with the ambulance. The truck lost control, hit the ambulance, and overturned on the EMT who had tried to run away. Conditions included dense fog and black ice at dawn. Compression suffocation was the cause of death.
- A marine-patrol deputy was looking for a missing person. While he and the pilot were flying over the river, the helicopter crashed into an unmarked support cable spanning the river. The helicopter stalled and crashed into the river. Both the deputy and volunteer pilot died in the crash.
- Two volunteer firefighters and a lieutenant firefighter were fighting a fire on the second floor of a building when the roof collapsed. The fire started in the chimney of an oven used to burn grease from parts. The heat from the machine had dried the wood in the walls over the years. The fire was suddenly infused with oxygen when the roof opened up. All three died of carbon monoxide poisoning and extensive burns (program-related).
- A deputy sheriff responded to a disturbance at a motel. The suspect in the disturbance produced a rifle and shot the sheriff in the head. He was wearing a bulletproof vest.



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