

Work-Related Deaths Decline in 1993

by Talitha Lukshin

Work-related injury deaths in Alaska declined by 38% in 1993. According to the Department of Labor, Census of Fatal Occupational Injuries (CFOI), a Bureau of Labor Statistics program conducted with the Alaska Department of Labor, occupational fatalities dropped from ninety-one in 1992 to sixty-six in 1993.¹ This census counts occupational fatalities including the self-employed, civilian and military government employees as well as all private sector wage and hour employees.

Except for violent acts, every event category (which describes the manner in which the injury was inflicted) showed a drop or stayed the same from 1992 to 1993. (See Figure 1.) The most startling change was the dramatic increase of violent acts throughout many industry sectors in 1993. Four violent acts were recorded in 1992, of which two were homicide shootings. (See Table 1.) Of these two, one involved a robbery motive.

Surprisingly, that number rose to eleven homicides in 1993, over five times higher than the previous year. (See Table 2.) Of these eleven, only three apparently involved a robbery motive. The circumstances of a twelfth death are still unknown, but it appears to be self-inflicted according to investigating troopers.

Commercial fishing fatalities continue to decline

The largest decline occurred in the commercial fishing industry where thirty-five fatalities occurred in 1992, dropping to twenty-three in 1993. Of the fishers that died in 1992, seven fell from vessels, and twenty-six were lost on vessels that capsized or sank. These two event categories accounted for 94% of the thirty-five fatalities. In 1993, however, these events accounted for 78% of the fishing fatalities; five fell from vessels and thirteen perished after boats capsized or sank.

Good weather and an increased emphasis on safety were the two reasons for the decrease cited by Lieutenant Chris Honse of the Fishing Vessel Safety office of the United States Coast Guard (USCG). New safety regulations enforced by the USCG were implemented in Alaska beginning in September of 1991. The most significant change has been the requirement of immersion suits for all crews on commercial fishing vessels operating in Alaska. Since September of 1992, survival craft have also been required for documented vessels or those vessels over five net tons operating in the state.

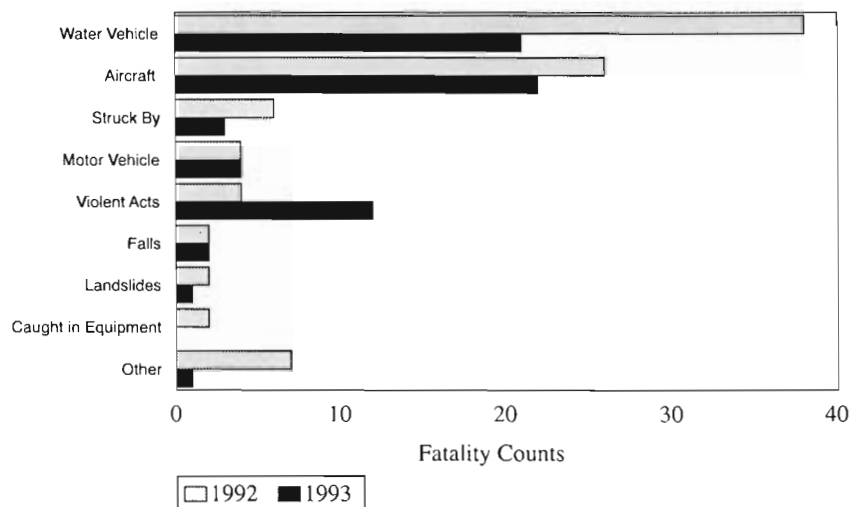
Comparing lives saved with lives lost data supplied by the USCG safety office, a significant downward trend emerged. In 1992, eighty-seven lives were saved, but thirty-five lives were lost. In 1993, sixty-nine lives were saved, and eighteen were lost. However, seventy lives have been saved so far in 1994, but only eight have been lost as of 7/8/94. Of the eight fishers that have died so far this year, only one has been lost after sinking and three have been lost overboard.

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¹An occupational fatality is counted in the CFOI program if the incident occurs on or off the employer's premises and the person was there to work or if the event or exposure was related to work.

Figure • 1

Violent Acts Increase Dramatically from 1992 to 1993



Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

Census of Fatal Occupational Injuries, Alaska 1992

Event Grouping ^{1/}	Cause	Total Cases	Occupation	SIC	Industry
Water Vehicle	Fall from Vessel	7	Fishers	091	Commercial Fishing
		2	Deckhands	44	Transportation, Water
	Sinking	26	Fishers	091	Commercial Fishing
		3	Deckhands	44	Transportation, Water
Aircraft		7	Pilots	45	Transportation, Air
		1	Pilot	241	Logging
		5	Loggers	241	Logging
		1	Manager	241	Logging
		1	Guide	799	Recreational Services
		2	Geologists	148	Minerals Services
		1	Biologist	951	Environmental Quality
		8	Military	971	Armed Forces
Struck By	Crab Pot	1	Fishers	091	Commercial Fishing
	Log	1	Truck Driver	241	Logging
	Root Wad	1	Logger	241	Logging
	Choker	1	Logger	241	Logging
	Roof Truss	1	Clergy* ^{2/}	866	Religious Organizations
	Pulley	1	Secretary*	671	Holding Offices
Motor Vehicle	Snowmachine accident				
	Broke through ice	1	Caretaker*	703	Hotel, Camp
	Pedestrian Struck By Bus	1	Bus Driver	415	Transportation, School Bus
	Pedestrian Struck By Truck	1	Mechanic	161	Heavy Construction, Hwy.
Fell from/Struck By Dozer	1	Dozer Opr.	162	Heavy Construction, exp. Hwy	
Violent Act	NR ^{3/}	1	NR	NR	NR
	Self Inflicted	1	Guide*	703	Hotel, Camp
	Shooting	1	Guard	738	Business Services
	Shooting	1	Police	922	Police Protection
Falls	From Roof	1	Police	922	Police Protection
	Into Crevasse	1	Guide	799	Recreation Services
Landslides		2	Loggers	241	Logging
	Caught in	1	Operator	103	Lead & Zinc Ores
Operating Equipment		1	Truck Driver	161	Heavy Construction, Hwy.
Other	Drowning	1	NR	209	Manufacturing, Seafood
	Drowning	1	Fishers	091	Commercial Fishing
	NR	1	Guide	799	Recreational Services
	Confined Space	1	Processor	209	Manufacturing, Seafood
	Overdose	1	NR	209	Manufacturing, Seafood
	Choked, gastric contents	1	Processor	209	Manufacturing, Seafood
	Unknown	1	Diver	971	Armed Forces

Note: Occupational injury related death must occur during the reference year and in the reference state, or reference state issues a death certificate. An incident or exposure resulting in death must have occurred while a person is in a work status. A work relationship exists if an event or exposure results in fatal injury to a person: on the employer's premises and the person was there to work; or 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.

^{1/} Event is coded using the Occupational Injury and Illness Classification Structure (OIICS).

^{2/} The National Institute of Occupational Safety & Health also maintains an occupational fatalities database for Alaska. The counts differed in that the four occupational cases marked with * were not counted as part of the 87 reported by NIOSH for 1992. CFOI did not capture one case involving a miner killed while returning to his claim.

^{3/} NR; cannot be released. Any data obtained from other than public information sources such as newspapers, OSHA, US Coast Guard and Workers' Compensation reports cannot be released.

Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

Census of Fatal Occupational Injuries, Alaska 1993

Event Grouping ^{1/}	Cause	Total Cases	Occupation	SIC	Industry
Water Vehicle	Fall from Vessel	5	Fishers	091	Commercial Fishing
		1	Manager	092	Fish Hatcheries
		1	Hatchery Tech.	092	Fish Hatcheries
	Sinking	13	Fishers	091	Commercial Fishing
	Hit by Wave	1	Deckhand	441	Transportation, Water
Aircraft		6	Pilots	45	Transportation, Air
		3	Pilots	241	Logging
		2	Managers	861	Business Associations
		5	Guides	799	Recreational Services
		1	Guide	703	Hotel, Camps
		2	Fishers	091	Commercial Fishing
	3	Military	971	Armed Forces	
Struck By	Crab Pot	1	Fishers	091	Commercial Fishing
	Concrete Slab	1	Contractor	152	Construction, General Building
	Tree	1	Logger	241	Logging
Motor Vehicle					
	Pedestrian Struck By	1	Logger	241	Logging
	Pedestrian Struck By	1	Logger	241	Logging
	Fell from	1	Fishers	091	Commercial Fishing
	Head-on collision Hwy.	1	Bus Driver	411	Transportation, Interurban
Violent Act	Shooting	1	Pilot	452	Transportation, Air
		1	Sec. Guard	738	Business Services
		1	Health Aide	808	Health Services
		1	Painter	162	Construction, Painting
		1	Night Manager	541	Grocery Stores
		2	Taxi Drivers	412	Transportation, Local
		1	Forester	951	Environmental Quality
		1	Miner	100	Metal Mining
		2	Processors	209	Manufacturing, Food
	1	Military	971	Armed Forces	
	Stabbing				
Falls	From Ladder	1	Carpenter	822	Educational Services
	From Equip.	1	NR ^{2/}	261	Manufacturing, Pulp Mill
Landslides		1	Logger	241	Logging
Explosion	Gas Fumes	1	Welder	091	Commercial Fishing

Note: Occupational injury related death must occur during the reference year and in the reference state, or reference state issues a death certificate. An incident or exposure resulting in death must have occurred while a person is in a work status. A work relationship exists if an event or exposure results in fatal injury to a person: on the employer's premises and the person was there to work; or 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.

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Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

Whereas the number of lives lost due to vessel sinking has dramatically declined, the event category of lost overboard has remained high. The water transportation sector also experienced two fatalities because of falls from vessels in 1992 as well as one sinking of a tug vessel involving three fatalities. In 1993, however, only one fatality involving a crew member struck by a wave was recorded.

Aircraft fatalities decline while crashes increase

The number of occupational fatalities involving aircraft dropped from twenty-six to twenty-two; however, this decline is deceiving in that the number of crashes actually rose from ten in 1992 to sixteen in 1993. Military related fatalities due to aircraft crashes fell from eight to three, but the actual number of crashes rose from one to two.

The number of guides killed while flying also rose dramatically from one in 1992 to six in 1993. Guides piloting aircraft are particularly at risk according to George Cabelnic of the National Transportation Safety Board (NTSB). "In many cases, guides are landing

on and taking off from unprepared surfaces," Cabelnic explained. "Also, while spotting game from an airplane, they can become distracted from flying." Guides piloting passengers to lodges accessible only by plane have also come under NTSB scrutiny. Over approximately a two-year period, the NTSB investigated twenty-nine crashes involving both guide services and lodge operations, which resulted in fourteen fatalities.

Presently, entry into pilot guide or *aero lodge* operations is not restricted. All that is required of a certificated private pilot is an aircraft and a willing client, according to safety recommendations submitted by an NTSB report to the Federal Aviation Administration (FAA).² Despite this lack of restriction, interviews with survivors and next-of-kin revealed a perception that the safety of the operations would be comparable to that of commercial aviation.

The report highlighted the operational variables of high altitudes with vast weather and terrain extremes in areas with marginal or nonexistent weather reporting that are commonplace for these operations. The findings of the report were that the relationship between the level of pilot training, qualifications and experience and the number of accidents warranted an increased level of requirement standards.

Little change in air transportation losses

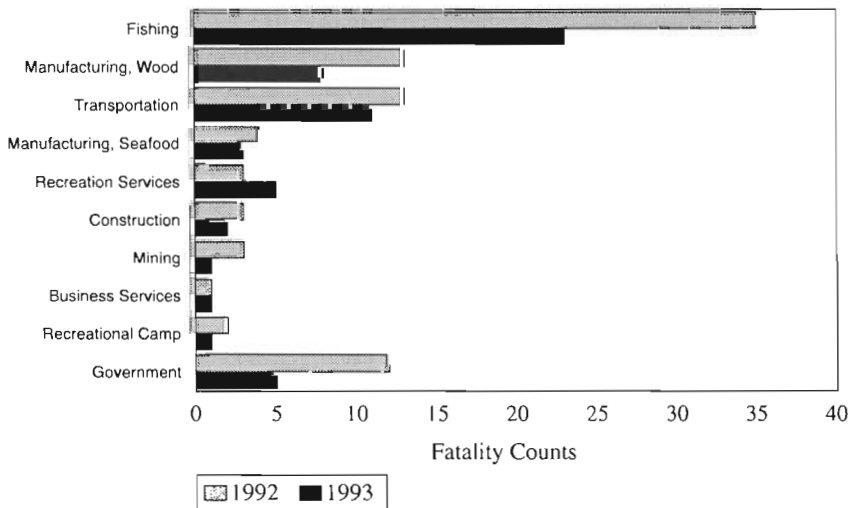
Seven pilots were lost in the air transportation sector in both 1992 and 1993. However in 1993, one of the seven was a homicide related death. As a proportion of the whole, aircraft crash fatalities among pilots in the air transportation sector accounted for about 8% in 1992, increasing to 11% in 1993.

In addition, employees in other industry sectors and various occupations were also lost as passengers. In 1992, two geologists employed in mineral services were killed in crashes as was a biologist working for the state. Also, managers operating airplanes to transport themselves in a work status are at risk. Managers were lost in both 1992 and 1993 in this type of occupational fatality event.

² National Transportation Safety Board, Safety Recommendation Letter, May 4, 1994 to the Federal Aviation Administration.

Figure • 2

Fatality Counts Decline in Most of the Major Industry Sectors



Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

Transportation fatalities fluctuated across sectors

Dropping from five to one, the change in water transportation offset an increase in the interurban highway portion of this sector, which showed a decline overall. The highway transportation fatality increase was due to the shooting deaths of two cab drivers. Only one highway fatality was determined to be occupationally related in both of the census years. As mentioned earlier, air transportation related fatalities remained the same from 1992 to 1993.

Helicopter logging crashes increase, then drop

The logging industry dropped to third place in counts of fatal injuries in 1993. (See Figure 2.) Aircraft crashes accounted for seven of the twelve deaths or 58% in 1992 and three of the seven, or 43% in 1993. Nine of these ten crashes were related to helicopter logging crashes that occurred between February 1992 and May 1993.

The high number of fatalities related to helicopter logging triggered an investigation by the Alaska Federal-State Interagency Collaborative Working Group on the Prevention of Occupational Traumatic Injuries.³ Meeting in July of 1993, the work group issued six recommendations. And by July of this year, a Centers for Disease Control & Prevention, Morbidity and Mortality Weekly Report⁴ (MMWR), was released by members of that group.

Presenting startling calculations, the MMWR reported the fatality rate for long-line helicopter pilots (estimated to be fifty in the state) rose to approximately five thousand deaths per 100,000 pilots. (This is after adjusting to an annual average.) The NTSB probable cause findings were also presented in that report as, "... improper operational and/or maintenance practices." The MMWR concluded that these findings "reflected a lack of inspections of long-line helicopter logging operations." Since this intense inter-agency investigative effort, no additional crashes have been reported as of mid-July, 1994.

Logging occupation fatalities fall in 1993

Logging occupations dropped below pilots and guides in 1993 and recorded the same number of fatalities as the manager occupational category. (See Figure 3.) Of the two helicopter logging crashes that occurred in 1993 involving fatalities, no logging crew were lost unlike in 1992 when five were lost in the one incident. In other event categories for logging occupations such as choker setters, tree fallers etc., the count remained at four for both years. The number of logging fatalities due to landslides dropped from two to one. In addition, the category struck by (which excludes equipment-related events) dropped from two incidents in 1992 to one in 1993. Tragically, in 1993, two loggers were hit and killed by equipment that was operating around them.

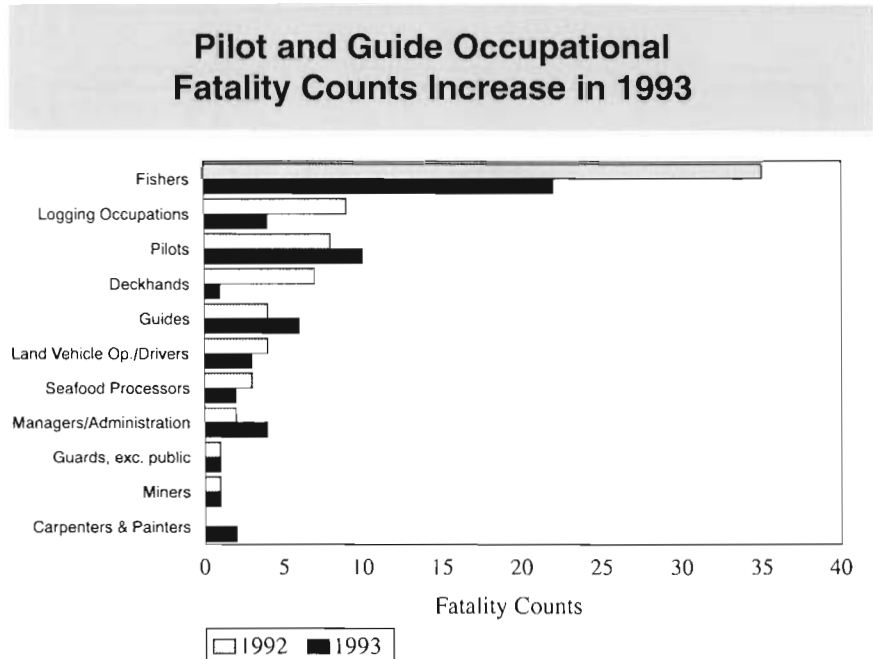
Seafood processing fatalities remain low

Except for two homicide stabbings, no other occupational fatalities were reported in the seafood processing sector in 1993. The two workers were stabbed on their vessel in a homicide related incident and were counted

³ The Alaska Federal-Safety Interagency Collaborative Working Group on the Prevention of Occupational Traumatic Injuries is comprised of representatives from the NTSB, FAA, CDC's National Institute for Occupational Safety and Health, Occupational Safety and Health Administration, United States Coast Guard, United States Forest Service and the Alaska Departments of Health and Social Services and Labor.

⁴ Morbidity and Mortality Weekly Report (MMWR), Centers for Disease Control and Prevention, Vol. 43/No. 26, July 8, 1994.

Figure • 3



Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

as part of the census. This sector generally excludes harvesting and is classified as manufacturing, miscellaneous food preparation category 209 of the standard industrial classification (SIC) manual. The CFOI count tends to be high for this Alaska industry since an employee who is there in a work-related status and who dies on or off the employer's premises will be counted in this census. Many seafood processors house employees onboard or at their work sites.

In 1992, two of the four fatalities involved an overdose and a choking on gastric contents. Two other fatalities in the seafood processing sector occurred in 1992 and happened on barge processing operations. One involved an individual who fell while boarding. Hand rails were not in place on the gangplank and the winds were gusting to 50 knots causing chill factors of 33 below zero. The other involved a confined space incident investigated by the USCG where the operator of an ice barge entered a ballast tank and died due to oxygen depletion. The oxygen level was reported in a newspaper account to be 14 percent below the minimum needed to support life.

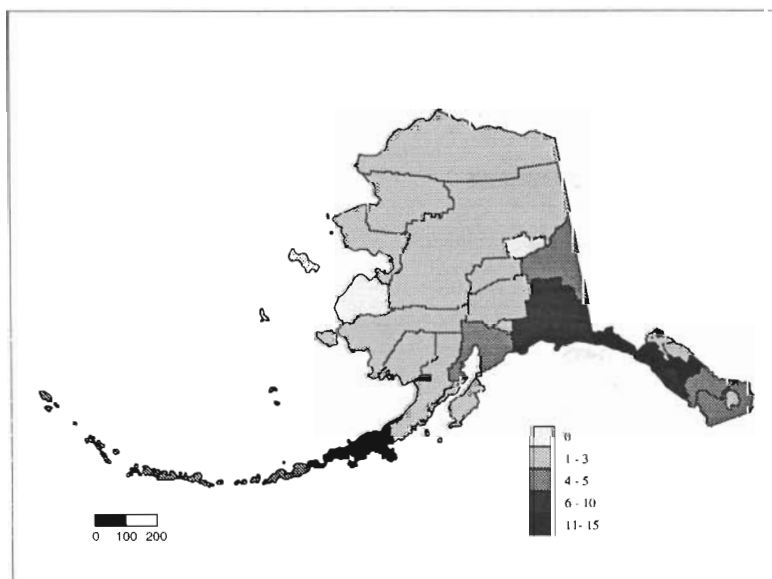
Causes of construction industry deaths vary

Although no building construction deaths occurred in 1992, three workers in heavy construction (a mechanic, a dozer operator and a truck driver) were killed when they were struck by or caught in the equipment they were working around, according to reports provided by the Occupational Safety and Health Administration (OSHA). In the struck by cases, one involved a worker standing in front of a truck as the driver drove off and the other involved an operator stepping onto the tracks that subsequently moved, causing him to fall in the path of the moving equipment. The third case involved a worker who crawled under a dump truck while it was running and was caught in the drive shaft.

No heavy construction industry fatalities were counted in 1993, but a self-employed building contractor and a painter were killed on the job that year. The contractor entered a trench to work on a sewer line when a concrete slab collapsed on him and the trench filled with dirt. The painter was shot by a co-worker at a remote work site while he was working.

Figure • 4

Occupational Deaths Higher in Coastal Areas in 1992



Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

State OSH jurisdiction covers about 10% of CFOI fatalities

Of the occupational fatalities counted by the census and investigated by the Alaska Department of Labor, Occupational Safety and Health (OSH) unit, a slight drop from eight to seven was noted. Although higher as a percentage in 1993, these OSH investigated fatalities remained around 10 percent of all occupational fatalities counted by the census. It should be noted that homicide shootings such as those which occurred in 1993, are investigated by the Department of Public Safety.

Occupational fatalities concentrated in coastal areas

Fishing-related deaths affected all but a few of the coastal areas, stretching from Ketchikan to Nome. (See Figures 4 & 5.) All of the fatalities along the Aleutian Chain and the Bristol Bay census areas occurred on the

water and in the fishing and seafood processing sectors in 1992. Seven falls from vessels occurred in these areas for that year; the other two in that event category happened in Southeast Alaska. Due to a combination of the logging, fishing and aircraft related fatalities, Southeast had the highest number of occupational fatalities in 1992. However, in 1993, the Southcentral part of the state darkened due to a combination of violent acts and airplane crashes involving guides. No specific pattern is evident in relation to air craft crashes for either of the census years. In 1993, crashes occurred in ten different census areas and nine areas in 1992.

Alaska differs greatly from the 1992 national CFOI

In Alaska, aircraft and water vehicle events accounted for slightly over 71 percent of the total occupational fatalities in 1992 and 65% of the total for 1993. The percentage for the same event categories accounted for roughly 7.6% of the 1992 CFOI national data, gathered from all fifty states. The violent act event category accounted for only 4% of the total 1992 occupational fatalities in Alaska, but the CFOI national data showed 20% in this category. However, in 1993, this event category in Alaska rose significantly to 18%. Based on a percentage comparison, Alaska fatalities were below the nation in all other event groups in 1992. National data for 1993 was not available in time for this article.

Worker characteristics show more men killed on the job

In 1992, 98% and in 1993, 97% of the workers killed on the job were men. This is dramatically higher than their 58% representation in the labor force. (See Table 3.) A percentage comparison of population by age groups with fatal occupational injuries also seems to indicate that workers in the age group 45 to 55 were at a slightly higher risk in both 1992 and 1993 than their representation in the Alaska population would suggest. Workers in the age group 35 to 44 also appeared to be at a higher risk than their representation in 1992 when 33% of those workers were fishers; this equalized again in 1993.

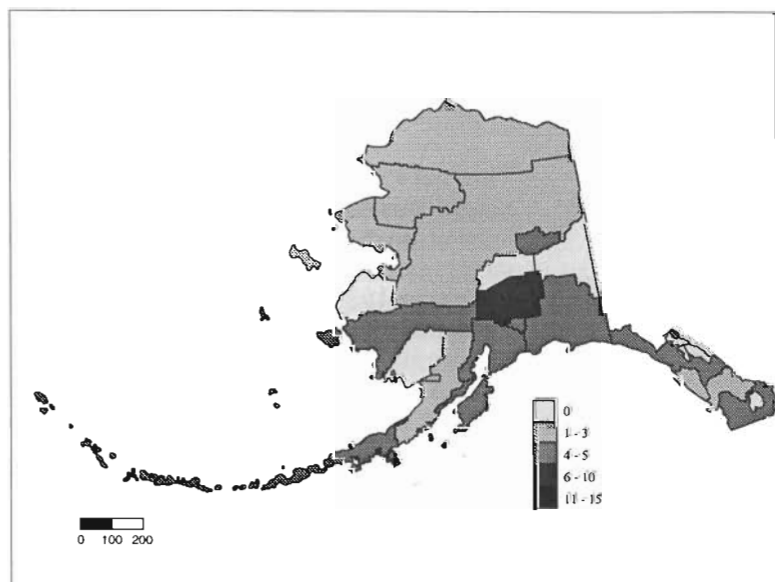
The number of self-employed killed on the job rose in 1993, from ten deaths or 11% of the total census in 1992 to fifteen deaths, or 23%, the following year. This is much higher than their general representation in the work force and despite the downward fatality trend in other employment status groups. Fishers, pilots and guides were the self-employed occupations with fatalities in 1992. In addition to these, the occupational make-up in 1993 also included a contractor, a miner, and a security guard. Since no annual self-employment estimates are available for Alaska, it is impossible to calculate reliable fatality rates for this group.

Experimental occupational fatality rates provide basis of analysis

Data from the Occupational Database (ODB) provided the number of individuals employed in an occupation during the third quarter of each of the census years. The ODB consists of employment coded by occupations for all employees contributing to the unemployment tax program of the Department of Labor. The third quarter was chosen since it is the

Figure • 5

Occupational Deaths Rise in Southcentral Area in 1993



Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

**Percentage Comparison of CFOI Cases
Worker Characteristics to the 1990 Census**

Worker Characteristics	1990 Census		CFOI 1992		CFOI 1993	
	Number	Percent	Cases	Percent	Cases	Percent
Age Groups						
16-19	15,828	5	3	3	0	0
20-24	31,811	11	8	9	5	8
25-34	92,463	31	29	32	23	35
35-44	87,498	30	31	34	20	30
45-54	46,248	16	16	18	15	23
55-64	16,970	6	4	4	3	5
65+	3,139	1	0	0	0	0
Total	293,957	100	91	100	66	100
Employment Status						
Civilian, exc self employed	248,908	85	71	78	48	73
Self Employed	20,058	7	10	11	15	23
Armed Forces	24,991	9	9	10	4	6
Total	293,957	100	91	100	66	100
Gender of Workers						
Men	171,262	58	89	98	64	97
Women	122,695	42	2	2	2	3
Total	293,957	100	91	100	66	100

Source: 1990 Census of Population and Housing compared to the 1992 & 1993 CFOI Program, Department of Labor, Research & Analysis Section.

Logging occupations have long been a high risk occupation, but with the introduction of helicopter logging, new occupational risks were also introduced. The occupational risk was high in both 1992 and 1993 for loggers employed by helicopter companies classified as SIC 4522. Safety professionals have successfully targeted the risk in helicopter logging and rates are expected to be lower in 1994.

Logging occupations among the traditional logging companies reporting as SIC 2411 had a fatality rate drop from thirty-seven to twenty-six per 10,000 workers between the two census years. This is due in part to an occupa-

highest quarter of employment for Alaska. Isolating one quarter allows a closer approximation to the actual number of occupational positions. The fatality counts of CFOI were then adjusted for only in-state reporting employers and their respective SIC classification so that a comparison could be made. (See Table 4.)

This data must be used with caution since a single incident can cause an occupational rate to multiply many times. For example, supervisor, marine operations, was zero per 10,000 in 1992 but rose to 833 per 10,000 in 1993 after one incident. This is due to the low number of workers in this specialized field. The other limitation is the time series is only two years, far too short for trend analysis. However, by benchmarking the fatality counts to an occupational employment number, associated occupational risks can be identified.

tional employment increase and one less fatality.

Pilots in the air transportation sector experienced a higher fatality rate per 10,000 pilots in 1993 than in 1992. The rate increased due to helicopter logging crashes. Aircraft incidents also placed guides at a higher occupational fatality risk in both 1992 and 1993. Using the rate analysis for comparison, the occupational risk for guides was slightly higher than for traditional loggers in 1993 as was also indicated in the occupational fatality count ranking in Figure 3.

Workers in occupations on or near the ocean or in the air are at significant risk. Given the low level of employment in some of these sectors, the rates will tend to be high from a single incident. This occupational risk is real and validates precautions presented by the various agencies involved in making safety recommendations.

Experimental Comparison of CFOI Data to Available Occupational Employment by Industry

Industry	SIC	SOC	Occupation	1992		1993		Rate per 10,000	
				Employed	CFOI	Employed	CFOI	1992	1993
Fishing	092	5611	Sup., Marine Oper.	10	0	12	1	0	833
		5618	Marine Life Occup.	321	0	368	1	0	27
Construction	16	6117	Mechanics	254	1	325	0	39	0
		8312	Oper. Engineer	651	1	877	0	15	0
		8317	Dozer Operator	185	1	108	0	54	0
Wood Products	2411 24&26 4522	573-9	Logging Occup.	1,079	4	1,150	3	37	26
		8212-3	Truck Drivers	202	1	234	0	50	0
		573-9	Logging Occup.	86	5	74	1	581	135
Transportation, Water	4492	8243	Deckhands	136	3	191	0	221	0
Transportation, Air Unscheduled	45 4522	8250	Pilots	1,461	6	1,537	9	41	59
		8250	Pilots	650	5	672	7	77	104
Recreational	7999 7032	5255	Guides	327	1	363	1	31	28
		5255	Guides	158	1	164	1	63	61
Police Protection*	9221	5132	Police	1,115	2	1,195	0	18	0

Notes: Calculating fatality rates by occupations within an industry classification is an experimental method to evaluate fatality data. This rate was calculated as $(N/W) \times 10,000$, where N is equal to the number of occupational fatal injuries, adjusted to maintain consistency with W , which is the number of Alaskan employees, obtained from the DOL, Research and Analysis, Occupational Data base, except where marked with a *. This data base consists of occupational classifications for all individual workers reported in the industry classification of the employer reporting to the Department of Labor, Unemployment Tax Insurance Program (DOL, UI Program) during the third quarter of the census year. This result is then multiplied by 10,000 for comparison and analysis. The third quarter has the highest level of employment for the state so it is used to minimize double counting individuals in those positions that experienced turnover. This database does not include the self employed.

Transportation, Water, SIC 44 employment is not available for companies reporting to other states so the CFOI data includes only those fatalities that occurred at companies that report to Alaska.

Occupational employment data for policemen in the State of Alaska was obtained from the Department of Public Safety, Alaska Police Standards Council, Annual Departmental Questionnaire, 1992 and 1993. The count includes both Alaska State Troopers and the municipality employment.

The SIC coding of this table is in accordance with how the individual companies report to the DOL, UI program. SIC coding of the CFOI cases as presented in Table 1 and Table 2, represents the industry operation in which the fatality occurred. This table, however, reflects the industry in which the employer reported so that the occupational employment can be compared.

Source: 1992 and 1993 CFOI Program, Alaska Department of Labor, Research & Analysis Section.

Conclusion

Good data makes good policy and timely policy can save lives. The swift action of the State-Federal Interagency Work Group to address the sudden increase in helicopter logging crashes has no doubt saved lives. The lobbying efforts to change USCG regulations regarding the commercial fishing industry began in the late 1980s. In 1993 and now in 1994, the effects of those efforts are apparent.

However, government involvement can influence occupational safety only so much. Random homicide shootings, as counted in the CFOI 1993 data, indicate that violent acts in the workplace without motive will be difficult, if not impossible, to address. It has been said that "what we are to be, we are becoming." Even in Alaska, there is little doubt that our society is becoming more violent.