

Workplace Fatalities Decline

by Talitha Lukshin
Labor Economist

Most deaths continue to result from aircraft and water vehicle accidents

The strong downward trend in workplace fatalities in Alaska continued in 1998, with a total of 43 fatalities. This is the fewest fatalities since the Census of Fatal Occupational Injuries (CFOI) began in 1992. (See Exhibit 1.) Fewer highway and aircraft fatalities, and an absence of logging and diving fatalities contributed to the decline. However, lives lost in water vehicle accidents and as a result of falls increased from the previous year.

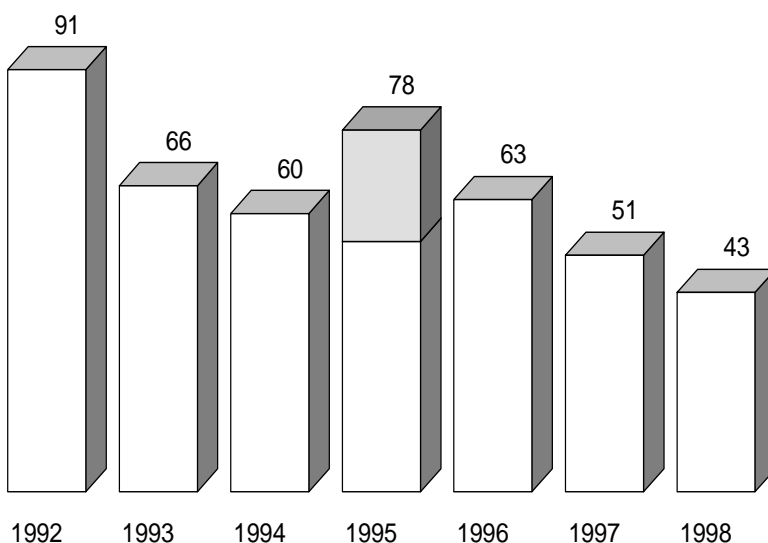
It is significant that the number of fatalities is declining during a period when the statewide labor force is increasing. In 1992, the first year statistics were compiled, the fatality rate was 31 per 100,000 workers. In 1998 the rate reached a low of 14 per 100,000 workers. (See Exhibit 2.) When five-year periods are compared, the fatality rate for 1994-1998 is down 18 percent from the period 1992-1996.

A comparison of Alaska's occupational fatality rate to that of other states is available for 1997. Alaska's rate of 17 fatalities per 100,000 workers led all other states, with Wyoming next at 12 per 100,000. The national average rate throughout the 1990s has been five per 100,000.

Major causes of occupational fatalities in Alaska consistently differ from national trends. Nationally, the majority of deaths are in the "other transportation," "violent acts" and "contact with objects" categories. In Alaska water vehicle and aircraft fatality cases dominate the count. Since 1992, nearly two out of three deaths counted in the Alaska census have involved either aircraft or water vehicle accidents; their combined total in 1998 was 63 percent. (See Exhibit 3.)

The 1998 count for water vehicle fatalities increased to 14 from eight in 1997, while the overall trend has moved downward. Aircraft fatalities numbered 13 in 1998, down from 19 in

1 Deaths in Alaska, 1992-1998 Census of Fatal Occupational Injuries (CFOI)



Note: 24 deaths in 1995 were related to a single military air crash.

Source: Alaska Department of Labor and Workforce Development,
Research and Analysis Section

1997. While the numbers in these two categories go up or down from year to year, together, they consistently account for the majority of lives lost.

Fishing industry fatalities rose significantly

The number of fishers killed on the job rose from three in 1997 to 13 in 1998, highlighting the hazards of this occupation and the dangers faced by rescuers. Two incidents claimed six lives. Four were lost when the *F/V Evanick* capsized en route to the herring grounds. Two of five fishers died after abandoning the sinking *F/V La Conte* in 50-foot seas. Heroic rescue efforts in high winds by multiple helicopter crews from U.S. Coast Guard (USCG) Sitka Station brought four of the five home. Three survived. The *La Conte* was not equipped with a deployable life raft. The condition of the survival suits probably contributed to the loss of the two men. A rip in the suit when abandoning the vessel may have resulted in hypothermia for the skipper, who was recovered, but did not survive. The other crewman lost in this sinking had borrowed a suit just before departing. USCG investigators speculated that the suit was too big and, therefore, ineffective.

Salmon fishing in Prince William Sound claimed two lives in separate incidents when two vessels, each with a single crewman, capsized. In one case, the vessel was running too close to breaking surf. In the other, the vessel was found swamped with water in the pilothouse with no one aboard. In the Seward area, another fishing vessel overturned in transit from shipyard to harbor, and the lone crewman piloting the vessel was lost. The lack of ballast in the presence of a heavy snow load was a factor, according to USCG reports.

Two fishers fell overboard in 1998, and another was pulled over during crabbing operations. One fisher fell overboard from the topside of the rear shelter deck; heavy seas and the low railing height were contributing factors. Another fisher was leaning overboard to secure a crab pot when the

vessel took a mild roll and he fell over. The fisher lost when launching crab pots brings to nine the total pulled over by lines connecting fishing gear since 1992.

Despite the 1998 increase in fishers' lives lost, the trend line for lives lost since 1992 declines more steeply than the trend for vessels lost. (See Exhibit 4.) In 1992, based on data provided by the

Fatality Incidence Rates ¹ Alaska and U.S., 1992-1998 **2**

Year	Alaska CFOI ²	Alaska CPS Employment ³	Alaska Rate per 100,000	U.S. Rate per 100,000
1992	82	261,155	31	5
1993	64	274,788	23	5
1994	54	281,417	19	5
1995	51	281,502	19	5
1996	61	291,246	21	5
1997	50	291,102	17	5
1998	41	298,547	14	5
1992-1996	62	278,022	22	5
1993-1997	56	284,011	20	5
1994-1998	51	288,763	18	5

¹ An incidence rate is calculated as (N/Wx100,000) where N is the number of occupational fatal injuries and W is the number of workers employed, multiplied by a base number of workers. Here, 100,000 workers is used.

² The CFOI counts shown here exclude military personnel, volunteer workers and workers under 16 years of age.

³ Current Population Survey (CPS) employment for the civilian labor force, 16 and older, are estimates based on a monthly survey of Alaska households. The rates are considered experimental by the U.S. Bureau of Labor Statistics because the CPS data are by place of residence and CFOI fatality data are by place of occurrence.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

USCG, 44 vessels were documented losses and 35 fishers lost their lives. In 1998, there were 32 vessels lost, but 13 deaths. The decline in lives lost coincides roughly with the period after new safety regulations were implemented by the USCG in Alaska. The significant changes have been the requirement of immersion suits for all crew, and a deployable life raft and Emergency Position Indicating Radio Beacons (EPIRB) for commercial fishing vessels operating in Alaska waters.

Air taxi deaths drop in 1998, but air carrier accidents are up

Five accidents claimed six pilots in unscheduled air transportation this past year, five of whom were wage and salary employees. This was fewer fatalities than in the previous year. Another set of statistics, fatal and nonfatal accident counts compiled by the National Transportation Safety

Board (NTSB) for commercial air carriers, shows increases since 1995. (See Exhibit 5.) These statistics include both scheduled and on-demand flights, but exclude air carrier accidents in general aviation.

Of the five wage and salary air taxi pilots killed in 1998, four were reported by the employer to have had less than a year with the company. One crash killed both the pilot and co-pilot, so if an adjustment were made to include only the pilot-in-command, the ratio would be three out of four.

In 1997, nine of 11 air taxi pilots killed had less than two years with their company before their fatal accident. In that year, fatality and fatal accident rates for wage and salary workers in unscheduled air transportation were more than twice that of previous years.

3 Fatalities by Type of Accident¹

Census of Fatal Occupational Injuries (CFOI) Alaska and U.S., 1992-1998

	Alaska										United States					
								1992-1997			1998		1992-1997		1998	
	1992	1993	1994	1995	1996	1997	Avg.	%	Count	%	Avg.	%	Count	%		
Total	91	66	60	78	63	51	68		43		6,316		6,026			
Water Vehicle	38	21	14	21	26	8	21	31%	14	33%	106	2%	112	2%		
Aircraft	26	22	10	34	16	19	21	31	13	30	322	5	223	4		
Other Transportation	4	4	6	11	6	6	6	9	3	7	2,162	34	2,295	38		
Contact with Object	10	4	9	4	4	6	6	9	1	2	1,005	16	960	16		
Violent Acts	4	12	6	3	6	6	6	9	7	16	1,248	20	941	16		
Falls	-	-	-	1	0	0	1	1	4	9	657	10	702	12		
Fires & Explosions	0	1	3	0	1	2	1	2	1	2	194	3	205	3		
Exposure	6	0	10	3	4	4	5	7	0	0	589	9	572	9		
Other	-	-	-	1	0	0	0.3	0.5	0	0	35	1	16	0		

¹ The event grouping (type of accident) is coded using the Bureau of Labor Statistics, Occupational Injury and Illness Classification Structure (OIICS).

- Not publishable as presented.

Sources: Alaska Department of Labor and Workforce Development, Research and Analysis Section, and U.S. Department of Labor, Bureau of Labor Statistics

Sustained labor market growth starting in 1994 and building through 1997 increased the need for pilots in Alaska. Employment growth was most likely accompanied by more flights, more flight hours and tragically, looking at the NTSB data, more accidents. The number of accidents is up, but in the absence of data on flight hours, the rate of air carrier accidents is not known.

Fatalities to wage and salary pilots at air taxi carriers between 1992 to 1996 averaged just above three. A preliminary review of pilots killed on-the-job since 1992, coupled with the 1997 and 1998 data, indicates that aviation fatalities of newly hired pilots may be higher than would be expected.

If there is a link between commercial aviation accidents and pilot length of service with an employer, additional research is necessary to establish it. Similarly, any correlation between length of service with an employer and pilot flight experience in Alaska is yet to be examined. There is also the possibility that limited experience in a new geographic area with different operational complexities could be a separate contributing factor.

Violent acts account for 16 percent of deaths

Since 1992, assaults and violent acts have accounted for an annual average of six occupational fatalities. This count changed little with seven fatalities in 1998. However, this category now represents 16 percent of total fatalities, identical to the national census. Prior to 1998, assaults and violent acts in the U.S. accounted for one in five occupational fatalities, but in this past year the number dropped significantly. (See Exhibit 3.)

Five of the seven deaths in 1998 were shooting homicides. Three came during a string of cab driver homicides in Anchorage. Apparently, robbery was a motive. A murder of a news

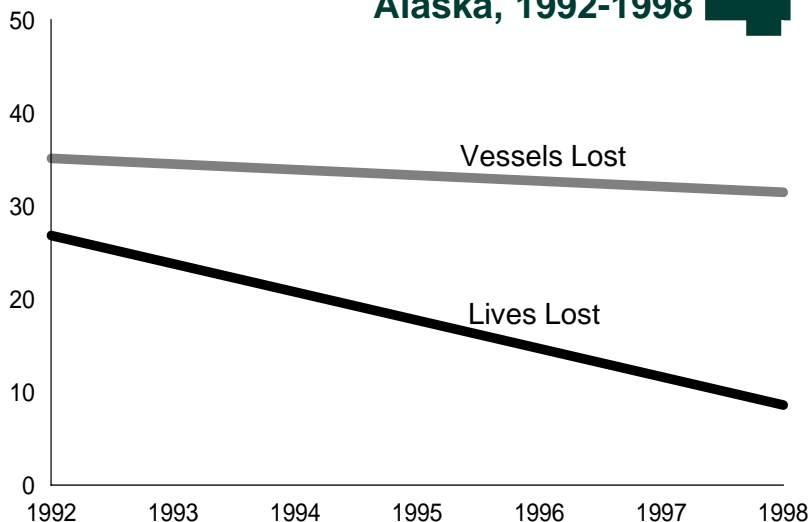
reporter occurred as he was leaving his place of work. The remaining homicide was a police officer performing a welfare check on a man reported as suicidal. After entering the house, the police officer was shot. An average of one police officer a year has been lost since 1992.

OSH investigates six fatalities in 1998

The Alaska Department of Labor and Workforce Development (AKDOL), Occupational Safety and Health (OSH) has limited jurisdiction over workplacesafety. Only wage and salary employees are covered, and only in the absence of primary jurisdiction by another agency, such as USCG or NTSB. In 1998, OSH investigations covered 14 percent of the deaths recorded by this census.

In 1998, all six fatalities investigated by AKDOL OSH were in construction trades occupations. Two of the workers were struck by mobile vehicles, and two others fell from heights. Fatalities resulted from a crushing accident and an explosion. (See Exhibit 6.) There were no logging fatalities.

Fishing Industry Accident Trends Alaska, 1992-1998 4



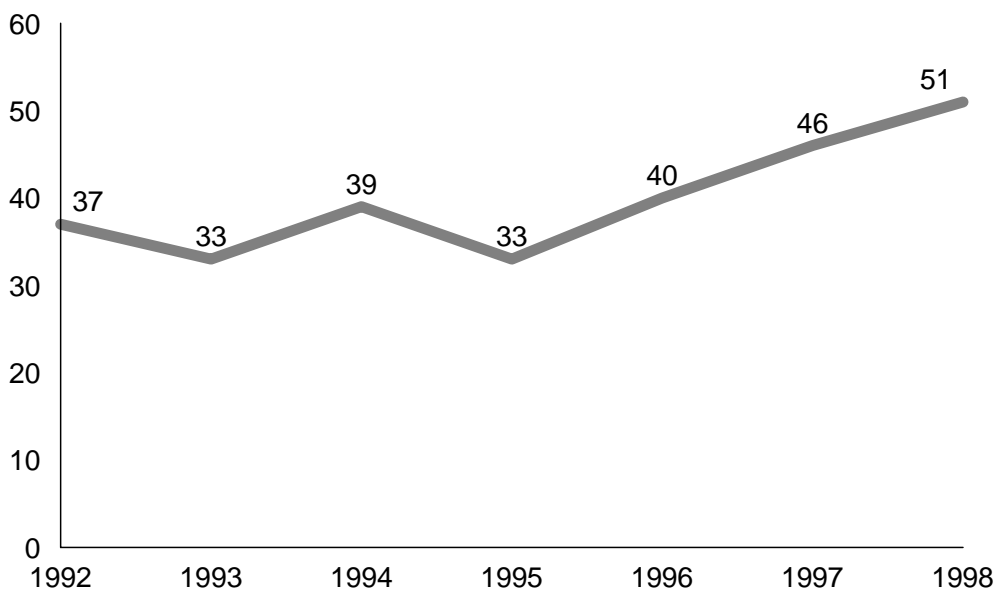
Source: U.S. Coast Guard, 17th District, Fishing Vessel Safety Office

Fatalities at guiding services and remote lodge operations increase

With the growth of the tourism industry, guiding operations and remote lodge operations have been expanding in the state. Since 1992, there have been 16 guides killed in Alaska as coded by the CFOI program, 10 of them in aviation accidents. The operating pilot was acting as a guide in five of the accidents; four others were in passenger status when killed. In this past year, a fishing guide was struck in the head by the propeller of a floatplane he was instructed to tie off to the dock. In 1997, another fishing guide died in a boating accident.

The challenge of Mt. McKinley has attracted climbers from all over the world to attempt the summit. The climb has always been a dangerous one. Since 1992, four guides in occupational status have been killed on the mountain, two of them in 1998. This past year, a young, but reportedly experienced guide unhooked to help a client, stumbled, and fell to his death. Two volunteer guides found themselves unroped on an extensive and steep ice sheet during an attempt to rescue a fallen climber. One of them fell to his death. (See Exhibit 7.)

5 Air Carrier Accidents Fatal and nonfatal, Alaska 1992-1998



Source: Data compiled by National Transportation Safety Board and provided by Federal Aviation Administration, Alaska Region

Summary

The required use of safety equipment has greatly reduced loss of life in the fishing industry. Despite high loss of life, 13 fatalities in 1998, the trend remains downward. Four vessels and seven lives were lost during sudden capsizes. Fishers lost overboard accounted for two more deaths.

Aircraft fatalities numbered 13 in 1998, down from 19 in 1997. Data collected by the CFOI program point to a possible association between wage and salary pilots recently hired at air taxi operations and fatal accidents, suggesting a need for further research.

In 1998, OSH-investigated fatalities covered 14 percent of the deaths recorded by this census, six deaths in all. Two workers were killed by nearby moving vehicles, and two others fell to their deaths. A crushing accident and an explosion claimed the other two lives.

The Census of Fatal Occupational Injuries (CFOI) records workplace fatalities under broad definitions of labor force, including military. Fatalities identified as unpaid family workers and volunteers in an otherwise-compensated position at commercial operations are also included.

Accident Investigations by AKDOL OSH 1998 **6**

Construction

A pipe fitter climbed to the roof peak to establish eye contact during a blind lift after radio communication failed. He stumbled, tripped and fell down the other side of the metal roof, dropping 40 feet to the ground below. The worker was wearing a body harness with a lanyard, but it was not secured.

An apprentice lineman, while walking and shoveling an earth berm alongside trenching machinery, fell and/or was pulled into the digging mechanism of a Vermeer Trencher T800B. The incident was not witnessed.

A construction laborer fell from a debris pile into a vault, striking his head on a concrete block wall being constructed six feet below ground level.

After helping to stretch a tractor-trailer to facilitate loading a crane, a foreman ironworker walked between the two vehicles. The tractor-trailer driver backed up, crushing the victim against the crane.

Trade

A welder cutting scrap metal with a propane/oxygen torch was fatally burned when vapors from a nearby abandoned metal fuel tank were ignited by welding slag. The tank had been recently unloaded at the storage yard and was thought to be empty.

Real Estate

When operating a forklift from a man basket above, an apprentice plumber, using a fishing net pole to manipulate the controls below, was pinned between ceiling pipes and the basket.

Source: Alaska Department of Labor and Workforce Development, Labor Standards and Safety Division

7 Occupational Fatalities in Alaska

1998

<u>Event Grouping</u> ¹	<u>Cause</u>	<u>Cases</u>	<u>Occupation</u>	<u>Industry</u> ²
Water Vehicle				
	Pulled over	1	Fisher	Commercial Fishing
	Fell overboard	2	Fishers	Commercial Fishing
	Fell from and crushed by crabpot on deck	1	Fisher	Commercial Fishing
	Capsized vessel	7	Fishers	Commercial Fishing
	Sinking vessel	2	Fishers	Commercial Fishing
	Capsized vessel	1	Tug Captain	Mining, Gravel
Aircraft				
		6	Pilots	Transportation, Air
		1	Salesman	Trade, Aircraft Sales
		1	Owner	Services, Lodge
		1	Guide	Services, Lodge
		1	Systems Engineer	Services, Other
		1	Coordinator	Government, Federal
		1	Foreman	Government, Federal
		1	NR	NR
Other Transportation				
	Highway accident	1	Engineer	Manufacturing, Seafood Processing
	Worker struck by trencher	1	Lineman, Apprentice	Construction, Electrical
	Worker struck by trailer	1	Ironworker	Construction, Structural Steel Erection
Contact with Object				
	Compressed between ceiling pipes and equipment	1	Plumber, Apprentice	Services, Property Management
Falls				
	Fell from roof	1	Pipefitter	Construction, Special Trades
	Fell into underground vault	1	Laborer	Construction, Special Trades
	Fell while mountain climbing	1	Guide	Services, Guide Services
	Fell while mountain climbing	1	Volunteer Guide	Government, Federal
Fire & Explosion				
	Welding slag ignited abandoned fuel tank	1	Cutter	Trade, Salvage Yard
Violent Acts				
	Homicide, shot	1	Police	Government, Local
	Homicide, shot	3	Taxi Driver	Transportation, Local
	Homicide, shot	1	Journalist	Manufacturing, Newspapers
	At-work suicide	1	Packer	Services, Guide Services
	Bear mauling	1	Helper, Seismic Work	Mining, Oil & Gas Exploration

¹ Event is coded using the Bureau of Labor Statistics, Occupational Injury and Illness Classification Structure (OIICS).

² Industry is classified using the Standard Industrial Classifications Manual, 1987 Edition.

NR Not releasable as presented. Data obtained from public information sources such as newspapers, OSHA, USCG, and NTSB are released.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section