Fatalities in Alaska's Workplace

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The majority of deaths in 1999 were from fishing and aviation accidents

At 42 deaths in 1999, the number of fatal work injuries in Alaska inched downward, changing only slightly from the previous year. (See Exhibit 1.)

The Census of Fatal Occupational Injuries (CFOI) showed that nearly 500 workers lost their lives since 1992, an average of one every six days. Last year, smaller numbers of fatal falls, aviation-related fatalities, and homicides were offset with increases in industries such as commercial fishing and logging. The rate remained unchanged from 1998, at 14 deaths per 100,000 workers, with the latest five-year average dropping slightly. (See Exhibit 2.)

In 1999, nearly three of four fatalities occurred on or near operating vehicles such as fishing vessels; 16 deaths were water vehicle-related, ten were aircraft-related, and five were in other transportation incidents. Of the latter group, three were highway accidents. Occupational deaths caused by violent acts reached a new low. Down by more than half from the prior year, this category accounted for three at-work deaths last year. One police officer was fatally shot after he approached a vehicle to do a welfare check on a man slumped over the steering wheel. Since 1992, seven police officers have died; six were homicides.

Major causes of occupational fatalities in Alaska consistently show striking differences from those seen nationwide. In 1999, aircraft and water vehicle-related events comprise 6 percent of the national fatal work injuries, but more than 60 percent of the fatalities here. On average, all other event classifications of fatal work injuries were lower in Alaska than in U.S. statistics. (See Exhibit 3.)

According to a Bureau of Labor Statistics analysis of national census data from all fifty states, highway crashes were again the leading cause of on-the-job fatalities during 1999, with one-fourth of the 6,023 deaths. Falls were the second leading cause of death, with slightly over half occurring in

Deaths in Alaska 1992-1999
Census of Fatal Occupational Injuries

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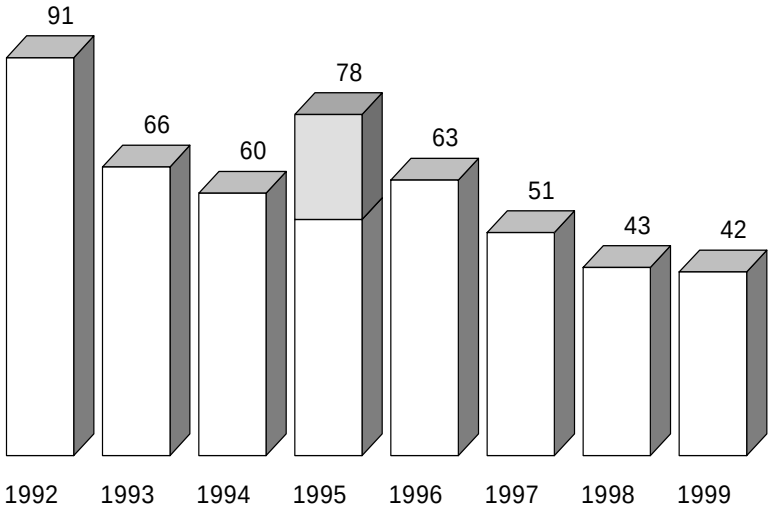

Note: 24 deaths in 1995 were related to a single military air crash.

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

the construction industry. Workplace homicides moved to third in 1999, reaching a new low since the start of the census. The drop in homicides was most pronounced in retail trade, down 51 percent from the peak in 1994.

Fishers account for 40 percent of deaths in 1999

The number of fishers killed on the job in 1999 increased to 17, up from 13 in 1998. In all, 13 fishers died in capsizing or sinking vessels, three went overboard, and one was struck by a falling boom and block. Capsize casualties totaled ten, from five different vessels, including one skiff incident. The sinking of the F/V Mistress claimed three lives with no survivors after the vessel apparently broke apart in heavy seas.

In three capsize incidents that claimed seven lives, icing was cited by the United States Coast Guard (USCG) as a factor contributing to the loss of vessel stability. Five fishers were lost when the 96-foot F/V Lin J, a crabbing vessel, capsized in the Bering Sea. The USCG investigation for this incident has not been released. The F/V Kavkaz, a 37-foot fiberglass vessel, and F/V Northern Aurora, a 30-foot wood vessel, both longliners targeting cod, each lost one of two crewmembers after capsizing. In these two separate incidents two fishers survived in their immersion suits and two did not. In both fatalities it appeared that the zipper failed from lack of periodic maintenance.

The 54-foot longliner F/V Becca Dawn capsized and sank when the halibut catch and deck gear shifted after being struck broadside by 20-foot waves. According to the USCG, the piloting crewman triggered the Emergency Position Indicating Radio Beacon (EPIRB) and threw it overboard while the other three crewmen donned survival suits. He then tied a rope attached to the vessel to his waist and dove into the water to retrieve a life raft that had washed overboard without deploying. The vessel sank and the crewman was not recovered. The other three crewmen were rescued within an hour floating 100 yards from the EPIRB. A light attached to one immersion suit helped signal the location of the crew to the approaching USCG helicopter.

In another capsize, two of three fishers died when their 18-foot set-net skiff overturned. After attaching the net in 3-foot seas, waves came over the stern, filling the boat. The line from the net was thrown off, but a large wave hit, capsizing the boat. None of the three was wearing a flotation device and two perished. According to USCG investigation reports, the crewman who survived climbed onto the partially submerged skiff. He

2 Alaska Incidence Rates 92-99
Census of Fatal Occupational Injuries

Year	CFOI Fatalities[2]	CPS Employment[3]	Rate per 100,000[1]
1992	82	261,155	31
1993	64	274,788	23
1994	54	281,417	19
1995	51	280,829	18
1996	61	288,511	21
1997	50	289,735	17
1998	41	298,547	14
1999	41	295,137	14
1992-1996	62	277,340	22
1993-1997	56	283,056	20
1994-1998	51	287,808	18
1995-1999	49	290,552	17

[1] 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, 100,000.

[2] 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, shows estimates based on a monthly survey of Alaska households. The rates are experimental measures because the CPS data are by place of residence and CFOI fatality data are by place of occurrence. Updated September 11, 2000.

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

held onto the boat until it sank up to his neck, jumped off, treaded water until the skiff surfaced and then climbed on again, repeating the process until help arrived.

One of the three man-overboard casualties occurred when the fisher was washed over by a rogue wave. While setting crab pots, the swell broke over the side of the vessel breaking onto the pot launcher and the crewmen, washing one overboard. Although the crew initially saw the victim in the water, they lost sight of him when the vessel turned to attempt a rescue. In another incident, a fisher was knocked into the water after being hit by a swinging crab pot. A rescue swimmer from the boat went into the water, but was unable to reach the victim before he disappeared underwater.

One fisher was struck and killed when the wire from the vessel's boom and block used to haul a salmon seining net released suddenly, bringing the load down on the crew below. According to the USCG, the cause of the wire failure was excessive wear and corrosion.

Aviation accidents are second leading cause of fatal work injuries

Nearly one of four fatal work injuries in 1999 was related to aviation accidents, making this event the second leading cause of death. In all, ten workers died. Five were unscheduled air transportation pilots and one was a military pilot. Two guides, one the operating pilot, died in an aviation crash. In another incident, a pharmacist piloting his plane for business was killed. Since 1992, 18 guides have died in Alaska, 12 in aviation accidents, six as operating pilots.

Of the five unscheduled air transportation pilots, four were classified as wage or salary employees. Of these four, three were hired within the past year and all were the pilot-in-command. This new-hire pattern is the same as in 1998. Because many of the unscheduled air transportation employers service a specific geographic area, there is the possibility that limited pilot experience in a new area with unfamiliar operational

Fatalities by Type of Accident 3

Census of Fatal Occupational Injuries (CFOI) Alaska and U.S. 1992-1999

								Five Year Average, 1994-1998				1999			
								Alaska		U.S.		Alaska		U.S.	
	1992	1993	1994	1995	1996	1997	1998								
Total	91	66	60	78	63	51	43	59		6,280		42		6,023	
Water Vehicle	38	21	14	21	26	8	14	17	28%	104	2%	16	38%	102	2%
Aircraft	26	22	10	34	16	19	13	18	31%	304	5%	10	24%	227	4%
Other Transportation	4	4	6	11	6	6	3	6	11%	2,232	36%	5	12%	2,284	38%
Contact with Object	10	4	9	3	4	6	1	5	8%	984	16%	5	12%	1,029	17%
Violent Acts	4	12	6	4	6	6	7	6	10%	1,168	19%	3	7%	893	15%
Falls	-	-	-	1	0	0	4	-	-	686	11%	1	2%	717	12%
Fires & Explosions	0	1	3	0	1	2	1	1	2%	199	3%	0	0%	216	4%
Exposure	6	0	10	3	4	4	0	4	7%	583	9%	-	-	529	9%
Other	-	-	-	1	0	0	0	-	-	21	0%	-	-	26	0%

Event grouping is coded using the Bureau of Labor Statistics Occupational Injury and Illness Classification Structure (OIICS).
- Not publishable

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

complexities, regardless of flight experience in or out of Alaska, may be a contributing factor.

In early September of this year, the National Transportation Safety Board (NTSB) released the probable cause for two of the five air carrier accidents. In both cases, the pilot's continued VFR (visible flight regulations) flight into adverse weather or into instrument meteorological conditions was cited as the probable cause of the accident. In one case, there was an inadvertent stall, and in the other, the pilot failed to maintain control.

From 1990 to 1998, Alaska accounted for 37 percent of all commuter and air taxi accidents in the United States. In the 1990s, Alaska averaged one aviation accident every two days, according to a study by the National Institute of Occupational Safety and Health (NIOSH) field office in Anchorage. The loss of life was high; nearly 400 aviation fatalities occurred in Alaska during the study period.

Towards safer skies

The Capstone program conducted since 1998 by the Federal Aviation Administration in collaboration with the NTSB, the National Weather Service and the NIOSH, has put in place a demonstration information technology system to address the high number of aviation accidents in Alaska. Automated weather information systems, the Global Positioning System (GPS), and terrain avoidance hardware and software are all part of the system. Pilots will be alerted to hazards such as other planes in the air space and rising terrain. Soon, upcoming cloud cover and weather patterns will also be available. The demonstration is currently underway in the Bethel area.

Seven deaths investigated by AKDOL OSH account for 17 percent of CFOI

The Alaska Department of Labor and Workforce Development (AKDOL), Occupational Safety and Health (OSH) has jurisdiction over workplace safety. Fatalities among wage and salary employees are investigated in the absence of primary jurisdiction by another government agency such as the USCG, NTSB, Federal Mine Safety and Health Administration or OSHA.

The seven fatal work injuries investigated in 1999 were reported in four different industries and accounted for 17 percent of the annual census. Two electrocutions were investigated, both in the construction industry and both involving overhead power lines. (See Exhibit 4.) Electricity from an overhead power line arced to a helicopter long line, electrocuting the worker attaching the load. Another electrocution occurred when the operator of a drilling rig raised the mast into overhead power lines.

In all, there have been five electrocutions in eight years involving equipment contact with overhead power lines. The three prior to this year involved a crane, a boom concrete pump truck, and a boom loader, with two reported in the construction industry and one in logging. In three of these cases, the operator in the cab survived the electrical charge. However, the worker touching the equipment, such as when adjusting outriggers, operating controls, or extinguishing the vehicle's burning tires started by the electrical charge, did not survive.

Two of three logging industry fatalities in 1999 were investigated. An equipment operator died when the front-end loader he was operating veered off the road and rolled over. Two cutters were killed after being struck by a falling limb or by a falling tree.

In eight years, 24 loggers have been killed. Seven cutters died felling trees, and single helicopter accidents took five lives in 1992. Three were killed in landslides, some triggered by an uprooted choker tree or digging. In three separate incidents, three loggers were struck and killed by moving vehicles, two when coiling choker wire. A logging truck, a front-end loader, and a forklift were the vehicles or equipment involved.

Summary

Fishing casualties accounted for 40 percent of the fatal work injuries in Alaska—17 lives in 1999. Capsizing vessels, most often caused by icing conditions, claimed ten lives. Immersion suits in working condition helped lessen the loss of life. During the past year three fishers were lost overboard and another was crushed by a falling block and boom.

The second leading cause of occupational death in 1999 was aviation accidents. As in 1998, three of four unscheduled air transportation pilots were newly hired at the time of their fatal crash. The FAA Capstone project currently being demonstrated in Bethel incorporates advanced information systems into air transportation operations. Pilots in the program have access to timely weather, terrain and positioning information using GPS and other information systems.

AKDOL investigated seven of last year's 42 fatal work injuries. Logging fatalities were up, as were electrocutions. As in previous years, workers were in jeopardy when moving around mobile equipment.

Overall, aviation accidents were down and fishing casualties were up. Deaths caused by violent acts reached a new low, although police fatalities continue to average one per year. Despite the unchanged rate of fatal work injuries from 1998 to 1999, the latest five-year moving average did drop slightly.

Accident Investigations by AKDOL OSH, 1999

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Mining

Worker was crushed between two vehicles when he attempted to hook a moving tracked vehicle to a drilling rig stuck in the snow.

Construction

Avalanche buried a backhoe operator.

Electricity from an overhead power line arced to a helicopter long line, electrocuting the worker attaching the load below.

A drilling assistant leaning against the rig was electrocuted when the operator raised the drill mast into an overhead power line.

Logging

A cutter was struck in the head by a falling limb that was dislodged from above when felling a tree.

An operator was killed after the front-end loader he was driving went off the road and rolled down an embankment.

Trade

A load of conduit fell off a trailer and struck the warehouseman unloading the delivery. The worker had not removed the tarp covering the shipment before cutting several bands securing the load. The load had shifted in transit.

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