

OREGON HEALTH TRENDS

Center for Health Statistics (503) 731-4354
 STATE OF OREGON • HEALTH DIVISION • DEPARTMENT OF HUMAN RESOURCES

SUMMER FUN, SUMMER DEATH

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After the many months of cool rainy Oregon weather, Oregonians head for the outdoors. But there is a risk: the number of unintentional deaths increases with the advent of warm weather as residents engage in outdoor recreational activities. This issue describes two types of death more common during the spring and summer months: drowning and animal-related fatalities.

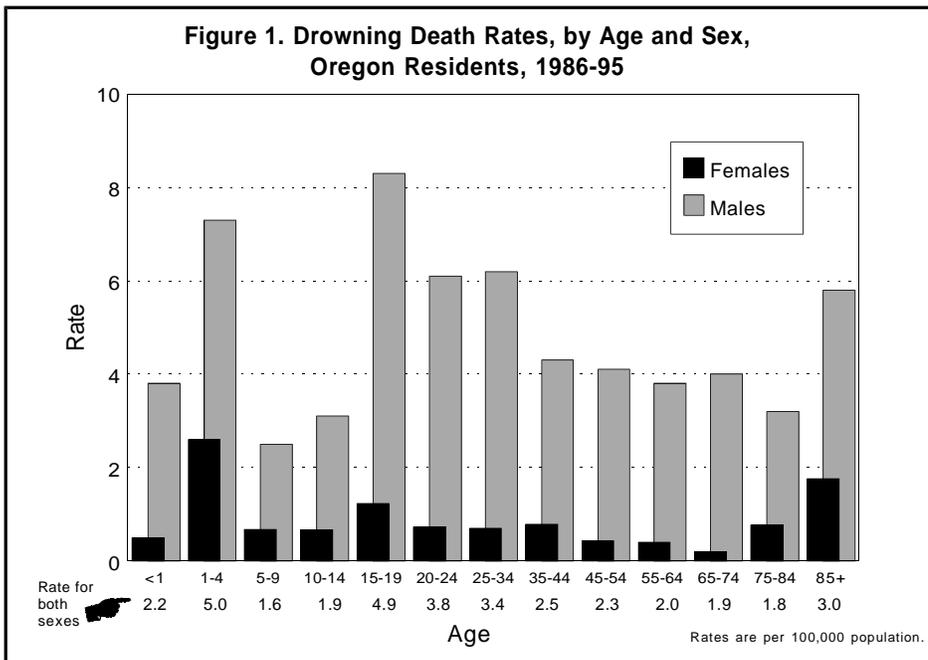
UNINTENTIONAL DROWNING

More than 200 Oregonians drowned during 1995-1997.¹ Had Oregonians died at a rate equivalent to that experienced by other Americans, just 152 would have been drowning victims (instead of 202). And, if the state's drowning rate were the same as New York's (the state with the lowest rate), even fewer would have died, just 67.

Most drownings are preventable, yet Oregon has the tenth highest drowning death rate among the states.² This article describes the demographic characteristics of drowning victims who died during 1995-1997 (unless otherwise stated), and the circumstances surrounding the drownings.³

Oregon has the tenth highest age-adjusted drowning rate among the states.

Figure 1. Drowning Death Rates, by Age and Sex, Oregon Residents, 1986-95



**Inside:
 Animal-related Deaths**

Youth Drownings

Unintentional injuries are an important cause of death among Oregon youth, and drownings rank second only to motor vehicle crashes as a cause of unintentional injuries. Sixty-five Oregonians age 17 or younger drowned during 1995-97 (Table 1). Unlike adults, a greater proportion of the fatalities were among females (31% compared to 14% of adult drownings). Like adults, more deaths occurred at rivers than any other site, but the proportion of youth dying there was less (31% vs. 40% of adults). Swimming pools claimed proportionately more youngsters than adults (12% vs. 2%). Fatalities resulting from boating mishaps were much less common, however (6% vs. 26% of adult drownings).

Table 1. Demographic Characteristics and Drowning Circumstances, by Age, Oregonians, 1995-97

Characteristics	All Ages (N=202)	Age < 18 (N=65)	Age 18+ (N=137)
	Percent		
Sex			
Male	81	69	86
Female	19	31	14
Place of Drowning			
River	37	31	40
Swimming Pool	5	12	2
Bathtub/Hot Tub	12	12	12
Lake	9	12	8
Creek	8	11	7
All Other	29	22	31
Boating Mishaps			
Yes	20	6	26
No	80	94	74
Month			
May-July	50	58	46
All Other	50	42	54
Time			
12:00 PM-7:59 PM	68	75	63
All Other	32	25	37

Table 2. Drowning Rates by Race/Ethnicity, Oregon Residents, 1995-97

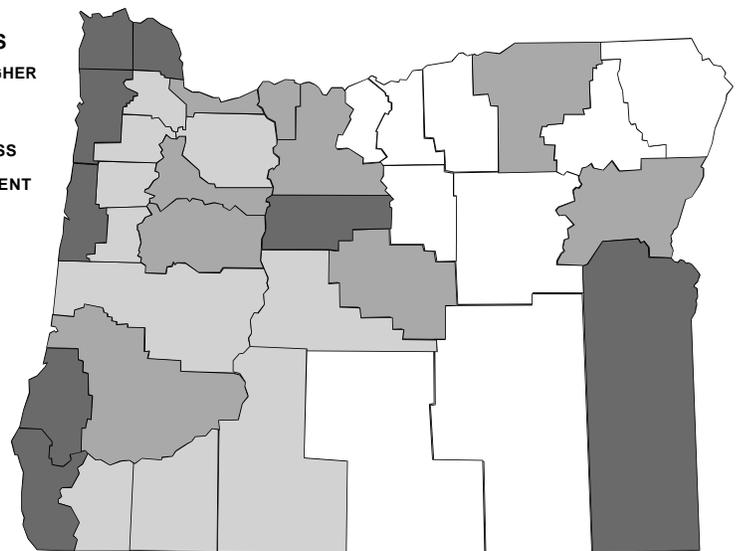
Race/Ethnicity	Number	Rate
Total	202	2.1
American Indian	7	5.3
African American	6	3.5
White	174	2.0
Hispanic (any race)	10	1.8
Asian & Pacific Islander	5	1.7

Crude rates are per 100,00 population.

Figure 2. Age-adjusted Drowning Death Rates, by County of Residence, Oregon, 1986-95

RATES

- 5.0 OR HIGHER
- 2.8-4.9
- 2.7 OR LESS
- INSUFFICIENT DATA



Note: Some rates are based on a small number of events. Rates are per 100,000 population.

DEMOGRAPHIC CHARACTERISTICS

Gender

Males more often engage in risky behavior than do females, and this penchant is reflected in drownings; four-fifths (81%) of all drowning victims were males and their death rate was 4.4 times higher than for females (3.5 per 100,000 population vs. 0.8).

Age

The age of drowning victims ranged from three months to 88 years. At greatest risk of drowning were toddlers (ages 1-4), teens and young adults (ages 15-34), and the very elderly (ages 85+). Rates were lowest among 5- to 14-year-olds (Figure 1).

Race/Ethnicity

Both African Americans and American Indians had markedly higher drowning rates than did non-Hispanic whites (Table 2). However, the rates were based on a small number of events and were not statistically significant (com-

pared to non-Hispanic whites).

Residence County

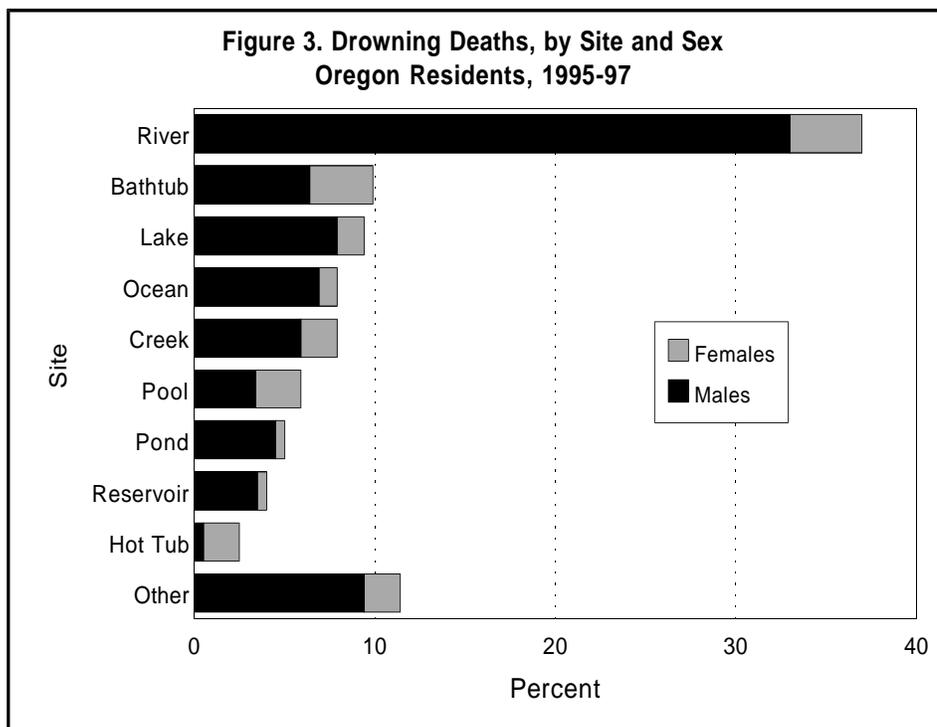
Death rates were high not only for most coastal counties but also for some sparsely populated counties east of the Cascade Mountains (Figure 2). At 9.7 per 100,000 population, Tillamook County had an age-adjusted⁴ drowning rate 3.3 times higher than the state's during 1986-95. Curry County (8.8) ranked second highest (Table 3). The number of drownings occurring in a county is also shown in Table 3.

CIRCUMSTANCES

One in five of all unintentional drowning deaths resulted from accidents to watercraft; most of the remainder occurred during recreational activities not involving watercraft, and from drownings in bathtubs. Many drownings likely involved alcohol intoxication; however, because this information is rarely recorded on death certificates, it is difficult to determine the role of alcohol in the deaths discussed here. Nationally, half of all recreational

County	Occurrence Number	Residence	
		Number	Age-Adjusted Rate
Oregon	764	810	2.9
Baker	8	6	4.5
Benton	8	6	0.9
Clackamas	62	55	2.0
Clatsop	34	23	6.5
Columbia	17	19	5.4
Coos	38	31	5.0
Crook	3	5	3.7
Curry	26	15	8.8
Deschutes	19	19	2.7
Douglas	34	36	4.2
Gilliam	0	2	14.5
Grant	1	1	2.0
Harney	1	3	4.8
Hood River	14	8	4.8
Jackson	24	29	1.8
Jefferson	13	11	7.7
Josephine	16	15	2.6
Klamath	7	10	1.9
Lake	1	4	8.4
Lane	69	69	2.3
Lincoln	53	25	7.2
Linn	27	28	3.0
Malheur	15	13	5.0
Marion	37	67	2.8
Morrow	4	4	5.5
Multnomah	109	168	2.8
Polk	10	10	1.9
Sherman	7	1	5.4
Tillamook	44	22	9.7
Umatilla	12	16	3.1
Union	3	3	1.0
Wallowa	1	4	8.4
Wasco	13	7	3.0
Washington	20	63	2.1
Wheeler	3	0	0.0
Yamhill	11	12	2.1

Rates are per 100,000 population and are adjusted to the 1940 U.S. Standard Million.



drownings are estimated to have involved alcohol.⁵

Drowning Site

Over one-third of all drownings (37%) occurred in rivers (Figure 3). Other sites included bathtubs (10%), lakes (9%), the Pacific Ocean (8%), creeks (8%), swimming pools (5%), ponds (5%), reservoirs (4%), hot tubs (3%), and other (11%).⁶

Rivers. Almost two of every five (37%) drownings occurred in rivers, with the Willamette the single most common site (Table 4). Of the 75 riverine drownings, 20% involved boating mishaps. At greatest risk of submersion

deaths were males and adolescents: males were nine times more likely than females to drown in a river; and youth ages 15-24, although representing just 14% of the state's population, accounted for 28% of the deaths.

Bathtubs and Hot Tubs. One in eight drownings (12%) occurred in bathtubs or hot tubs; 20 of these deaths occurred while bathing. Oregonians of all ages drowned while bathing, but two of the three infant drownings occurred in bathtubs. Sixty-five percent of the victims were male.

Five residents drowned in a hot tub, four of whom were female. The

The median age at death for drowning victims was 28, compared to 77 for all other causes.

Most residents who drowned in bathtubs were adults.

Table 4. Drowning Fatalities by Sex, Boat Involvement, On-the-Job Deaths, and Age, Oregon Residents, 1995-97

Site	Total	Sex		Boating	Non-Boating	On-the-Job
		M	F			
Total	202	163	39	40	162	10
By Type of Site						
River	75	67	8	15	60	3
Lake	19	16	3	4	15	-
Ocean	16	14	2	7	9	4
Creek	16	12	4	2	14	-
Swimming Pool	11	6	5	-	11	-
Pond	10	9	1	1	9	1
Reservoirs	7	6	1	2	5	-
Bathtub	20	13	7	-	20	-
Hot Tub	5	1	4	-	5	-
Other	23	19	4	9	14	2
By River						
Willamette	12	11	1	3	9	-
Columbia	8	8	-	2	6	-
Sandy	7	5	2	-	7	-
Umpqua	7	6	1	3	4	-
Santiam	6	5	1	3	3	-
Clackamas	5	5	-	-	5	-
Klamath	5	5	-	2	3	2
Rogue	4	4	-	-	4	-
Molalla	2	2	-	-	2	-
Other	19	16	3	2	17	1

median age at death for hot tub casualties was 41 (the highest recorded by type of site), compared to 35 for those dying in bathtubs. However, two of the hot tub victims were young children, an infant and a two-year-old.

Lakes. Nine percent of the state's submersion deaths occurred in lakes. Most of the deaths occurred during recreational activities with four of the 19 deaths involving boats; three residents fell out of the boat while another drowned after a boat collision. One of the deaths occurred at a private lake. All but three of the 19 victims were male. Over half the deaths occurred among children and

young adults (ages 5-24); the median age at death for lacustrine drownings was the third youngest by type of site.

Pacific Ocean. Eight percent of the deaths occurred in the ocean. Of the 16 deaths, seven involved boats (six people drowned after collisions and one fell overboard). Most of the others occurred during recreational activities but one resulted from the attempted rescue of another person. All but two of the decedents were males. Over half were aged 25-44; the median age at death was 40, the second highest recorded.

Creeks. As many Oregonians died in creeks as died in the Pacific Ocean

LOG-CAUSED DEATHS

During 1990-97, five log-related deaths occurred on Oregon beaches. The victims were mostly female (four) and young (3); their ages were: 7, 11, 23, 36, and 57. All but one occurred in Lincoln County; the other was in Tillamook County. The following circumstances were recorded on the death certificates:

- * The deceased was on a log on the beach when a wave hit. The deceased jumped off and the log rolled over her.
- * Log rolled over child.
- * She sat on a log at the ocean's edge; wave hit log; log rolled on her.
- * Playing in surf; large log rolled over him.
- * Walking on beach; rolled over by large log.

Table 4. Drowning Fatalities by Sex, Boat Involvement, On-the-Job Deaths, and Age, Oregon Residents, 1995-97 (cont.)

Age									
<1	1-4	5-14	15-24	25-34	35-44	45-54	55-64	65+	Median
3	19	27	42	30	34	18	12	17	28
-	2	6	21	13	13	10	4	6	32
-	1	5	6	3	1	1	-	2	19
-	-	1	1	3	6	2	2	1	40
-	4	2	4	2	2	-	1	1	21
-	5	3	2	-	1	-	-	-	5
-	3	2	2	-	1	-	1	1	18
-	-	2	1	2	1	-	1	-	29
2	2	2	1	3	4	2	2	2	35
1	1	-	-	-	1	1	-	1	41
-	1	4	4	4	4	2	1	3	33
-	1	3	3	2	3	-	-	2	28
-	-	1	3	1	1	-	-	-	27
-	-	1	4	1	1	-	-	-	19
-	-	-	2	1	2	2	-	-	41
-	-	-	-	2	-	2	1	1	50
-	-	-	3	2	-	-	-	-	21
-	-	1	3	-	1	-	-	-	17
-	-	-	-	-	1	-	1	2	65
-	-	1	-	-	1	-	-	-	24
-	1	2	3	3	4	3	2	1	35

More than half the drownings occurring in ponds and lakes were to persons under 25 years old.

Three people drowned while attempting to rescue others.

*Oregon's Rank Among the States for Drowning Deaths**

All Drownings: 10
 Boating: 3
 Non-boating: 16

* Based on 1993-95 age-adjusted rates.

(16). Two drownings involved boats and one resulted from the attempted rescue of another person. Seventy-five percent of the decedents were males. Most of the deaths were to residents who were less than 25 years old, with toddlers especially at risk of drowning in creeks; one in four of all deaths in creeks were of 1- to 4-year-olds.

Swimming pools. One in 20 (5.4%) drownings occurred in swimming pools; of these, seven of the 11 deaths were in private pools. Five of the seven deaths in private pools were of toddlers. Most of the victims in other pools were also young; the median age of all Oregonians who died in pools was 5, the youngest age by drowning site. Nearly as many females as males died in pools.

Ponds. Five percent of the submersion deaths occurred in ponds, most of which were private; just two of the 10 deaths were in public ponds. All but one of the victims were males, and most had not reached their twenty-fifth birthday.

Reservoirs. Seven drownings occurred in reservoirs; two were boating accidents. Again, only one of the de-

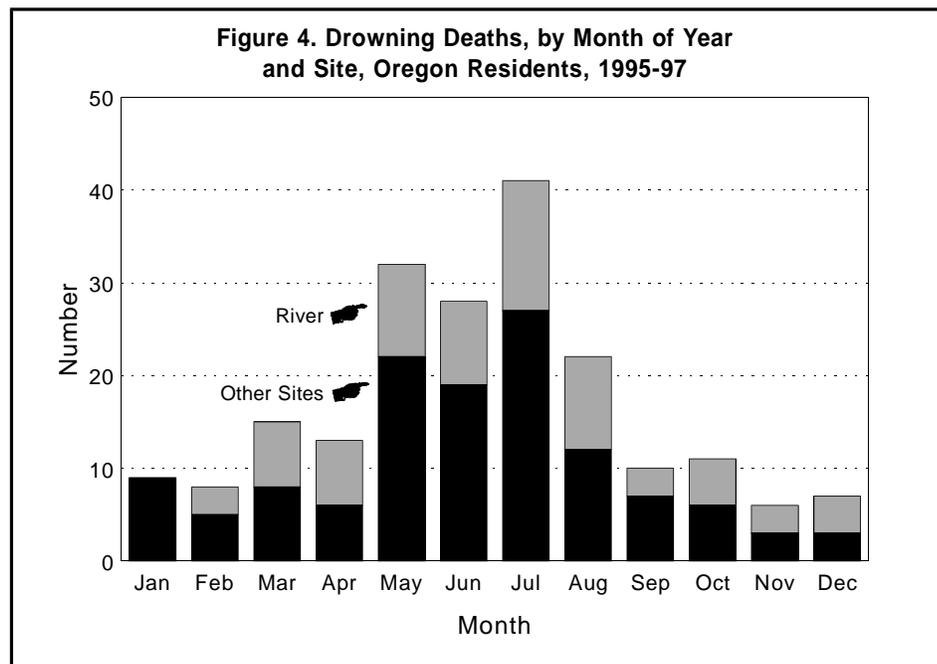
cedents was a female.

Watercraft-related Drownings

During 1995-1997, 40 Oregonians drowned while boating; 31 (78% of boating-related drownings and 15% of all drownings) resulted from collisions.⁸ The remainder of the boating-related drownings resulted from falls overboard (4% of all drownings). Boating-related deaths occurred most often on the Willamette, Santiam, and Umpqua rivers (Table 4). The victims were overwhelmingly male (93%) and mostly young, especially those who drowned after falling out of the boat; their median age was 27, compared to 41 for those dying after a collision. About 85 percent of the people who died in boating accidents would have survived if they had been wearing life jackets.⁹

Occupational Fatalities

Ten deaths (5.0%) occurred at work. Six of these involved boats, with drownings after collisions outnumbering falls overboard (4 vs. 2). All were men and most (6) were 35-44 years old. Nearly all were fishermen or deckhands.



Temporal Distribution

Not surprisingly, most drownings occurred during the warmer months (Figure 4); 101 of the 202 deaths happened during May-July. One-quarter (24%) of the drownings occurred on Sundays, with another 19% recorded on Saturdays. Overall, Oregonians were twice as likely to drown on Saturday or Sunday than they were on a weekday. Two-thirds of the deaths occurred during the afternoon and early evening hours of 12:00 PM to 7:59 PM (Table 5).

Oregon Visitors

Oregonians aren't the only ones who drown in Oregon; during 1995-1997, 28 visitors drowned. Almost half (47%) were from Washington State with 35% from other states, and 18% from other countries. Compared to

Oregonians, these victims were more apt to be male, young, and nonwhite (Table 6). They were also more apt to drown in rivers. (Two deaths, in separate incidents, occurred at fish ladders; one was of a rescuer) Like Oregonians, half (50%) of the victims drowned during May-July; 78% (compared to 67% of Oregonians) died between noon and 8 PM. Figure 5 shows the number of visitors who drowned in a county other than their county of residence for a recent 10-year-period. The northern coastal counties and Clackamas County had particularly high numbers of visitor's deaths.

PREVENTION

Drowning is one of the most preventable causes of death. Although four-fifths of Oregonians say they can tread

Time	Percent
Midnight - 3:59 AM	3
4:00 AM - 7:59 AM	1
8:00 AM - 11:59 AM	19
Noon - 3:59 PM	31
4:00 PM - 7:59 PM	37
8:00 PM - 11:59 PM	10

Table 6. Demographic Characteristics and Drowning Circumstances, Among Oregonians and Visitors, 1995-97

Characteristics	Oregonians (N=202)	Visitors (N=28)
	Percent	
Sex		
Male	81	89
Female	19	11
Age		
<35	60	79
35 +	40	21
Race/Ethnicity		
Non-Hispanic White	86	54
All Other	14	46
Place		
River	37	54
All Other	63	46
Boating Mishap		
Yes	22	21
No	78	79
Injury at Work		
Yes	5	11
No	95	89

One-half of all drownings occurred during May through July.

Table 7. Percentage of Oregonians Who Say They Can Tread Water for at Least Five Minutes*

Total	79
Sex	
Male	88
Female	71
Age	
18-24	91
25-34	92
35-44	87
45-54	80
55-64	65
65 +	52

* From the 1993 Behavioral Risk Factor Survey, a random digit-dialed telephone survey of 5,370 Oregonians.

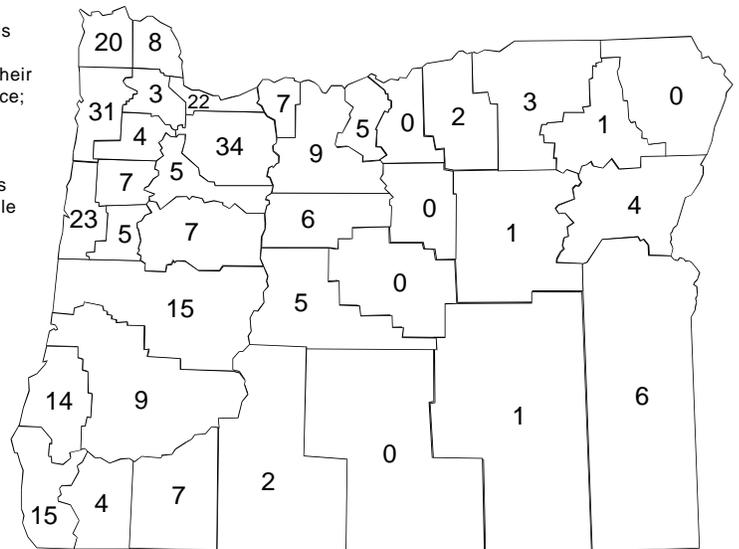
water for at least five minutes, it isn't enough (Table 7). Too many residents are dying needlessly. By following the prevention strategies below, Oregonians can reduce their risk of drowning.

Water Safety Tips To Live By

- * Always swim with a buddy; never swim alone.
- * Know your swimming limits and stay within them. Don't try to keep up with a stronger skilled swimmer or encourage others to keep up with you.
- * Keep an eye on weaker swimmers—if they appear to be tired, encourage them to rest on land.
- * Alcohol and swimming don't mix. Alcohol impairs your judgment, balance, and coordination. It affects your swimming and diving skills, and reduces your body's ability to stay warm.
- * Obey "No Diving" signs which indicate the area is unsafe for head-first entries. Enter feet-first into the water if you don't know the depth.
- * Watch out for the dangerous "too"s — too tired, too cold, too far from safety, too much sun, too much strenuous activity.
- * Swim in supervised areas only.

Figure 5. Number of Submersion Deaths of Visitors, by County of Drowning, Oregon, 1986-95

Excluded from this map are: persons who drowned in their county of residence; drownings by non-residents in bathtubs and hot tubs; and persons who drowned while at work.



- * Do not chew gum or eat while you swim; you could easily choke.
- * Use common sense about swimming after eating.
- * Always wear a Coast Guard-approved personal floatation device (i.e., life jacket or vest) when boating and fishing.
- * Know local weather conditions and prepare for electrical storms. Because water conducts electricity, it is wise to stop swimming or boating as soon as you see or hear a storm.¹⁰

Child Safety Tips

- * Never leave children unattended or near the water. Drowning often is a silent death; no one will hear your child fall or sink in a pond or pool.
- * Inflatable toys, mattresses, and foam floats will not keep children safe in deep or shallow water. Personal floatation devices that are approved by the U.S. Coast Guard are the only reliable floatation aids.
- * Have your children wear life vests on boats and around deep or swift water.
- * Prohibit diving into shallow water.
- * Keep tricycles or scooters away from the pool.
- * Children should swim only if life guards are on duty or an experienced swimmer is supervising. Pool owners should enroll in life-saving classes and keep a pool-side phone in case of emergency.
- * Pools need a fence that has four sides and that is self-latching and secured when the pool is not in use.
- * Start formal swim lessons with children who are at least three years old. Teach children pool rules.
- * Empty home wading pools after each use; drowning can occur in as little as two to three inches of water.
- * Don't allow children younger than three to use a spa (because of the heat). Cover your spa when not in use. Keep long hair away from suction-fitting drain covers.
- * Boat owners should teach their children boating safety.
- * Ponds, fountains, and 5-gallon buckets pose a drowning hazard to very young children. Never leave a bucket with water unattended where children can gain access to it.¹¹

Boating Safety Tips

- * Have the right size life jacket for each person; that means child size for kids. Non-swimmers and children should always wear their life jackets.
- * Make sure life jackets are in good condition.
- * Boat sober. Alcohol, which affects balance, perception, and judgment, is often a contributing factor to boating accidents. Oregon "boating under the influence" laws apply to non-motorized craft such as rafts and canoes, as well as to power boats.
- * Don't overload a boat with people or equipment. Check the boat's capacity plate for weight limits. Make sure the boat is balanced. In a small boat, return to shore before having people change places.
- * Teach children boating safety.
- * In an emergency, use safe rescue techniques. Don't jump in the water to save someone; instead use a throw rope, or long stick to reach the person.⁹

ENDNOTES

1. During the three-year period, an additional 38 Oregonians drowned; 29 were suicides and 9 were of undetermined manner (i.e., Medical Examiners were unable to determine whether the death was accidental, suicidal, or homicidal). Data for 1997 are preliminary; the final number of deaths may be slightly higher. Included in this article are accidental deaths classified to three International Classification of Disease, Ninth Revision, codes: 830, 832, and 910. Deaths are assigned these codes if the underlying cause of death was submersion. Although a death may have occurred in a body of water, it was not necessarily due to drowning. If, for example, a person dived from a high place into a river from a cliff fracturing his or her skull, and causing a terminal subdural hematoma, the death would be coded to a fall, not a drowning. Similarly, if a person had a fatal heart attack while swimming, the death would be coded to a myocardial infarction.
2. Resident state and county comparison data are from the Center for Disease Control and Prevention's WONDER system (<http://wonder.cdc.gov/>), and are for the most recent periods available: 1993-1995 for inter-state comparison and 1986-95 for counties. These rates are age-adjusted to the 1940 United States standard million. All other data are from the Health Division's death certificate-based mortality files.
3. This article reports on data not ordinarily included in the mortality database; 240 death certificates, representing the unintentional drownings that occurred during 1995-97, were reviewed, with additional information about the site and nature of the drownings added to the database.
4. Rates were adjusted to the 1940 United States standard million. Some rates are based on a small number of events and should be used with caution; counties with rates based on fewer than five deaths are not included in the discussion.
5. National Center for Injury Prevention and Control. <http://www.cdc.gov/ncipc/duip/drown.htm>.
6. "Other" includes sites such as bays, irrigation canals, fish ladders, sloughs, culverts, and ditches.
7. Most of the adult drownings in bathtubs followed seizures; a smaller number were alcohol-related.
8. Drownings occurring while wind-surfing are not included here; they are categorized as submersions not involving watercraft.
9. Oregon State Marine Board. Boating Deaths Double; Officials Urge Safety for Labor Day (press release). Salem, OR, August 19, 1997.
10. Tips from the American Red Cross. <http://www.crossnet.org/news/common/96/05-96.html>.
11. The Medicine Chest. <http://www.obgyn.net/women/articles/watersafe.htm>.

All Creatures Great and Small

Oregonians are almost half-again as likely to die from animal-related injuries as are other Americans

Animals of many types, from bees to horses, were associated with the deaths of some Oregonians. And many of these deaths were entirely preventable.

OREGON VS. THE NATION

Oregonians and residents of western and plains states are at greater risk of fatal animal-related injuries (Figure 1). Nationally, during 1980-1995, encounters with non-human animals resulted in the deaths of 4,400 humans (rate: 1.1 per million population). At 1.6 deaths per million population, Oregon's rate was 45% higher than the nation's.

OREGON OVERVIEW

From 1980 through 1996, animals were directly or indirectly responsible for the deaths of 76 Oregonians. Data from the death certificates of Oregon residents were analyzed to better characterize the

nature of the deaths. Horses (41), bees, wasps and spiders (13), bulls and cows (9), and domestic dogs (5) accounted for 68 of the deaths. The median age of the decedents was 42 years (range: 2 months - 92 years). Fifty-three percent of the decedents were male but there was a marked dichotomy by the type of animal involved. Frequent places of injury included: farms (28%), homes (24%), and streets and highways (21%). Fourteen percent of the deaths were work-related. The following describes the demographic characteristics of the decedent and the manner of the injuries by taxa.

TYPE OF ANIMAL

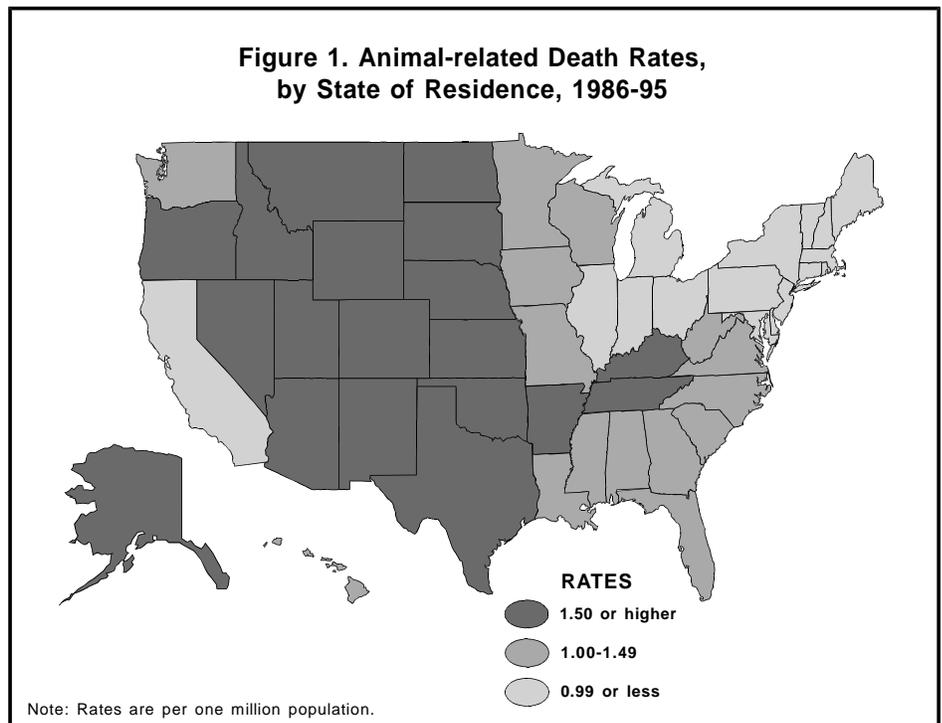
Horses

Equines (Equus caballus) were the leading cause of animal-related fatalities, accounting for 54% of the deaths (Table 1). The median age of

JOB-RELATED DEATHS

Ten deaths occurred on the job; four men were killed by bulls or cows, three by horses, two by bees, and one by a bison. The median age of the victims was 53 years (range: 19-87 years). No women died while at work. Six of the workers were injured on farms or ranches.

Figure 1. Animal-related Death Rates, by State of Residence, 1986-95



Note: Rates are per one million population.

the decedents was 37 years (range 1-77 years), but children aged <15 years accounted for 24% of the deaths. Females outnumbered males 2:1. Among adults, blue collar workers and homemakers predominated. Thirty percent of the injuries occurred on a street or highway; farms (23%), and homes (15%) accounted for most of the remainder. Seven percent of the deaths occurred while at work.

Most equine-related fatalities resulted from the riders falling or being thrown from their horses (59%). Others were struck, crushed, or bumped heads (15%). Less frequently, they were kicked (10%), dragged (7%), or an occupant of a motor vehicle that collided with a horse (5%). Of the non-motor vehicle-related deaths, 59% resulted from head injuries with females more likely to sustain this type of injury (65% vs. 46% of males).

Bees, Wasps, and Spiders

Envenomation by bees and wasps (Order Hymenoptera) and spiders (Order Araneida) accounted for 17% of the deaths; all but one of the deaths were due to Hymenoptera. The decedents' median age was 59 years (range: 22-75 years) with 46% of the deaths occurring among persons 65 or older. Seven in ten deaths (69%) were of men. Forty percent of the injuries occurred at home² and 15% at work. The occupationally-related deaths were of construction workers. All of the deaths occurred from June through September.

Cattle

Bulls and cows (*Bos taurus*) caused 12% of the deaths and were the third most common source of fatal injuries. The median age of the

victims was 67 (range: 26-87 years) with 5 of the 9 deaths among persons 65 or older. All of the decedents were men. With an exception of a model and electrician, all of the decedents were employed in some aspect of the cattle industry. Most of the injuries (89%) resulted from being struck, trampled, or crushed by cattle with 78% occurring on a farm or ranch. Half of the injuries occurred at work.

Dogs

Dog (*Canis familiaris*)-related injuries accounted for 7% of the deaths. The decedents' median age was 58 years (range: 4-92 years). All but one were males. Two children (aged 4 and 5 years) were killed by pit bulls in separate incidents. Three other deaths were of adults: a safety engineer aged 58 years tripped over his dog and fell down a flight of stairs; a mechanic aged 59 years bumped heads with his dog causing a subdural hematoma; and a retiree aged 92 years, while out on a walk, had an altercation with dog resulting in fractured hip that led to his death.

Other Species

Among the eight remaining deaths, no one species caused more than one death. Three, however, occurred on ranches: a riding instructor age 30 years was trampled to death by her mule (*Equus caballus* x *Equus asinus*); a rancher aged 48 years was gored by his enraged bison (*Bison bison*); and a hairdresser aged 54 years was kicked by his sheep (*Ovis aries*), causing a cerebrovascular accident. Two deaths involved motor vehicles: a social worker aged 46 years collided with a black-tailed deer (*Odocoileus hemionus*) while riding her motor-

PREVENTION

Some of these deaths were clearly preventable, from the 82-year-old former rodeo cowboy who made a habit of going into a pen to antagonize bulls to the carpenter who kept lions as pets. Also preventable were the deaths of young children who were killed by pets. Many others were probably also preventable, particularly the horse-related deaths. Use of a helmet could have reduced the number of fatalities, particularly the 67% of riders who suffered head injuries after being thrown or falling from their equine. Helmet use when working around horses may be advised as well; three of the four Oregonians who were kicked to death sustained fatal head injuries. Children were especially vulnerable to horses; 10 of the 13 animal-related deaths of children aged <15 years resulted from encounters with horses. Adults should make certain that young children are not permitted to be in situations where they could be injured. This applies not only to horses but to other pets, such as pit bulls.

One animal intentionally caused 33 times as many deaths as all others discussed in this article: Homo sapiens.

cycle; a clerk aged 27 years was killed in a car crash when the driver of the car was distracted by a “pet” in the car. Two of the three remaining deaths also involved pets: a two-month-old infant was repeatedly bit-

ten by a pet ferret (*Mustela furo*); a carpenter aged 40 years was killed and largely eaten by his pet lions (*Panthera leo*); and a rancher aged 52 years was envenomated by a rattlesnake (*Crotalis viridis*).

1. Deaths resulting from vector-borne diseases are not included.
2. The place of injury was unknown for three of the deaths.

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Table 1. Animal-related Deaths, by Sex and Age of Decedent, Oregon Residents, 1980-1996

Animals	Total	Sex		Age						
		M	F	0-14	15-34	35-44	45-54	55-64	65-74	75 +
Total	76	40	36	13	15	13	11	8	9	7
Row %	100.0	52.6	47.4	17.1	19.7	17.1	14.5	10.5	11.8	9.2
Column %	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Horses	41	14	27	10	8	9	6	4	3	1
Row %	100.0	34.1	65.9	24.4	19.5	22.0	14.6	9.8	7.3	2.4
Column %	53.9	35.0	75.0	76.9	53.3	69.2	54.5	50.0	33.3	14.3
Bees, Spiders, etc.	13	9	4	-	3	2	1	1	5	1
Row %	100.0	69.2	30.8	-	23.1	15.4	7.7	7.7	38.5	7.7
Column %	17.1	22.5	11.1	-	20.0	15.4	9.1	12.5	55.6	14.3
Bulls, Cows	9	9	-	-	2	1	-	1	1	4
Row %	100.0	100.0	-	-	22.2	11.1	-	11.1	11.1	44.4
Column %	11.8	22.5	-	-	13.3	7.7	-	12.5	11.1	57.1
Dogs	5	4	1	2	-	-	-	2	-	1
Row %	100.0	80.0	20.0	40.0	-	-	-	40.0	-	20.0
Column %	6.6	10.0	2.8	15.4	-	-	-	25.0	-	14.3
Other	8	4	4	1	2	1	4	-	-	-
Row %	100.0	50.0	50.0	12.5	25.0	12.5	50.0	-	-	-
Column %	10.5	10.0	11.1	7.7	13.3	7.7	36.4	-	-	-



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