

USA TODAY

When the bow breaks Lifeboats may not have room for everyone:

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SPECIAL REPORT: PASSENGER BOAT SAFETY

When the Titanic sank into the icy Atlantic Ocean in April 1912, there weren't enough lifeboats to save all the passengers. More than 1,500 people died. Today, such equipment is required for all passengers on cruise ships and on many boats heading more than 20 miles offshore. That's not true for thousands of commuter ferries, dinner-cruise boats, gambling ships, whale-watching boats and airport shuttles. In fact, the majority of U.S. passenger vessels that operate within 20 miles of shore and in lakes, bays, rivers and sounds, legally carry millions of passengers a year without enough lifeboats and rafts for everyone.

The Coast Guard requires a life jacket for every passenger, but it doesn't require boats to carry enough equipment to keep all passengers out of the water in an emergency. Coast Guard officials point to relatively few deaths in U.S. waters during the past few decades and say there's little chance of an accident.

Marine safety experts strongly disagree. They warn that a tragedy will occur if steps aren't taken immediately to provide such equipment for everyone.

USA TODAY investigated the issue by interviewing government and private safety experts, examining Coast Guard regulations and inspection data and riding passenger ships. The investigation revealed that:

- * Many U.S. ferries regularly operate with lifeboats and rafts that can accommodate fewer than 20% of the maximum number of passengers allowed aboard. In summer, when passenger loads are highest, small ferries are allowed to carry less equipment than in winter.
- * Whale-watching boats, sightseeing ships and dinner-cruise vessels, which may head miles into the ocean, usually carry no lifeboats or rafts. Gambling ships operating on rivers in the Midwest carry out-of-the-water equipment for a small percentage of their customers.
- * Under pressure from passenger vessel operators concerned about additional costs, Coast Guard officials last year withdrew an interim rule requiring the 150 or so largest passenger vessels to carry out-of-the-water equipment for all passengers when traveling in lakes, bays, rivers and sounds. Instead, a final rule calling for less safety apparatus was adopted in October.
- * Since 1986, the National Transportation Safety Board has repeatedly called for out-of-the-water survival craft for all passengers and crews on small passenger vessels, but Coast Guard administrators have refused to adopt such a requirement. Some regional Coast Guard officials, as well as private safety consultants, also say more out-of-the-water lifesaving equipment is necessary.

The NTSB said such equipment could have saved lives in passenger boat accidents in Maryland's Chesapeake Bay in 1993 and in the Pacific Ocean in 1988. Three died in the Chesapeake Bay accident and four in the Pacific, all of hypothermia.

Coast Guard records reveal that about 6,000 U.S.-registered passenger boats are operating. They carry more than 200 million customers annually, including an estimated 134 million passengers who travel on ferries in 35 states.

The amount of out-of-the-water equipment on each boat varies, depending on complex Coast Guard regulations that take into account a boat's weight, how it is constructed, the body of water the boat operates in, the number of miles offshore, the average water temperature on the route and the number of overnight accommodations.

The nation's largest ferry operator, Washington State Ferries, operates 28 ships with a combined capacity of 37,565 passengers and out-of-the-water equipment for 8,645 people -- less than a quarter of the maximum number allowed aboard. When filled to capacity, only three of the 28 ships provide out-of-the-water equipment for all passengers.

On the Kaleetan, which can hold 2,500 passengers, for example, there are four 15-person life rafts and three 45-person rafts. If a full boat of passengers had to abandon ship because of an emergency, there would be out-of-the-water protection for only 195 people.

Planning for disaster

"At least 10% would die in the first five minutes," says former Washington state safety manager Tom Gowdy, alluding to the frigid Puget Sound waters. "Nothing has ever happened, but, sure, it could happen. We should plan for any disaster, whether it's on a ferry, an airplane or in your own home."

No one has been hurt or killed on the Washington State Ferries since 1972, the earliest year statistics were available, says Chris Rose, state transportation commission administrator. There have, however, been 16 groundings of ferries, including four incidents in which ferries couldn't get loose from rocks or the ground until the tide changed, Rose says.

In September 1991, two ferries collided in heavy fog and strong currents in a narrow channel south of Bainbridge Island, and a woman was injured.

John Dwyer, the Coast Guard's chief of vessel services in Seattle, says his office thinks it makes sense to require ferries and other passenger vessels to carry more out-of-the-water equipment.

Barney Turlo, a former Coast Guard inspector, says that such equipment should be provided for every passenger.

"I've always felt that 100% capacity to keep folks out of the water is a necessary safety measure," says Turlo, who was in charge of marine safety in Providence, R.I., before retiring in 1997. "I

think passengers would be quite surprised if someone said, 'Go over the side,' and there was nothing there to jump into. I would always think twice about letting my daughter and granddaughter on any ship with less than 100% out-of-the-water lifesaving equipment."

Richard Hiscock, a Cape Cod-based maritime safety consultant, points out that the Titanic survivors lived because lifeboats provided out-of-the-water protection, while the passengers floating in the water wearing lifejackets died of hypothermia. Lifejackets and other safety devices that provide no protection from hypothermia should not be the only available equipment for babies, children, the elderly, the handicapped and able-bodied passengers who must jump overboard, he says.

Peter Lauridsen, regulatory affairs consultant for the Passenger Vessel Association, a trade group representing about 350 boat operators, says there's no reason to increase the required amount of out-of-the-water equipment. Other safety advances, including better boat stability, improved fire protection, upgraded crew training and state-of-the-art communications systems, have curtailed the need for more out-of-the-water equipment, he says.

"The objective of both government and industry is to not put people in the water in the first place," says Lauridsen, the Coast Guard's former deputy chief of marine safety. "We're doing a creditable job achieving that."

Joseph Murphy, an instructor at the Massachusetts Maritime Academy, agrees. "Many passenger vessels travel in close proximity to shore, and the expected rescue time is minimal," he says.

Murphy says accident statistics show that more out-of-the-water equipment is not needed, but he adds: "Of course, I'd prefer having the equipment if I was a passenger."

Statistics compiled for USA TODAY by the Coast Guard indicate that there were 88 fatalities on inspected U.S. passenger vessels (boats carrying seven or more passengers) from 1967 through 1997. In many incidents, the Coast Guard says, the number of lifeboats or rafts was not a factor.

The number of fatalities may be higher, however. Coast Guard officials couldn't explain why much higher fatality totals for some years were provided in the agency's 1989 regulatory proposal. The statistics provided by the Coast Guard do not include the many foreign-registered ships that carry American passengers from U.S. port cities.

Regardless of the actual number of fatalities, though, even staunch safety advocates admit that the fatal accident record of U.S. passenger vessels, particularly the record compiled by ferries, is impressive.

While there have been thousands of passenger fatalities in Third World countries and in Eastern Europe in recent years, no major catastrophe has occurred aboard a U.S. passenger vessel since the 1930s.

Safety advocates say a good fatal accident record is not a reason to avoid supplying out-of-the-water lifesaving devices for everyone, and they point to numerous close calls in recent years

During the past six years, for example, the Coast Guard has recorded 3,251 passenger vessel "casualty" cases. A casualty case can involve, among other things, grounding, collision, loss of power or steering, fire, flooding, an injury or a death.

In a December 1997 speech, Coast Guard Rear Admiral Robert North said "casualties are still occurring at an unacceptable rate and too frequently with catastrophic consequences." A month later, North told the Passenger Vessel Association that "many more near-misses occur than casualties."

Unlike their U.S. counterparts, most passenger vessels in Canada have out-of-the-water equipment for everyone aboard. "I'd safely say that above 75% of Canadian passenger vessels have out-of-the-water equipment for 100% of the passengers," says Bud Streeter, director general of marine safety for Transport Canada. "In winter, all Canadian passenger vessels, except two in Vancouver's rapid transit system, have out-of-the-water equipment for everyone. And those two vessels have just received approval to install such equipment."

Streeter doesn't agree with the Coast Guard's position that more out-of-the-water equipment is not needed because the chance of an accident is remote. "You can't say that treading water for 15 minutes is a viable alternative to 100% out-of-the-water lifesaving equipment," he says.

On many small passenger vessels, including dinner-cruise, sightseeing and whale-watching ships, no, or very little, out-of-the-water equipment is required. Coast Guard rules permit small passenger boats seating up to 150 passengers -- more than 80% of all passenger vessels -- to operate year-round on lakes, bays, rivers and sounds with no out-of-the-water devices.

None of the whale-watching boats in Provincetown, Mass., for example, carry out-of-the-water lifesaving devices, says Steve Milliken, a captain for the Dolphin Fleet. Most boats, he says, go 10 to 12 miles offshore.

"Safety is a priority, but out-of-the-water equipment is very expensive," Milliken says. "Small companies probably can't afford it."

Coast Guard officials and boat operators say equipment for 100% of the passengers is not needed because other ships in the area can come to the rescue or the boat in distress can beach itself on nearby land.

Safety experts point out that other boats may not always be nearby or have their radios on to monitor distress calls. If a fire breaks out or a collision occurs, there may not be enough time to wait for a rescue boat, they say. And a loss of engine power or steering could make it impossible to beach a vessel, they say.

Gambling ships in the Midwest are another concern. Last year, nearly 70 million gamblers boarded vessels that cruised on rivers and lakes, according to data provided by gaming industry consultant Ernst & Young.

The Grand Victoria, of Elgin, Ill., can carry 1,986 people and has four 50-person life rafts, says captain Scott Enslin. "There's no need for more out-of-the-water devices because the ship operates in an extremely benign environment on a shallow river (the 11-foot-deep Fox River)," he says. "If the ship sank, the main deck would get a little bit of water, but passengers could stay on it. Our vessel is so large that if one side sank, the angle wouldn't be severe enough to capsize the ship."

Coast Guard officials in Chicago agree. "The riverboat gambling boats are always within spitting distance of shore," Lt. Commander Eric Christensen says. "They move back and forth and don't travel great distances. If these vessels were to sink, their top decks wouldn't be submerged."

Such reasoning doesn't sit well with Hiscock, the Cape Cod-based safety consultant. "There's no guarantee that a boat will stay upright, and they're presuming that the only type of casualty is a sinking," he says. "What if the passengers have to abandon ship because of a fire or an explosion?"

Three years ago, the Coast Guard adopted an interim regulation requiring 125 of the largest passenger ships operating in lakes, bays and sounds to carry lifeboats and rafts for everyone aboard when the water is cold. In warm water in lakes, bays, and sounds, and throughout the year in rivers, the interim regulation called for such equipment for 67% of the maximum number of passengers.

Boat operators protested, saying the expense of additional equipment would be a great financial burden, and the Coast Guard withdrew the regulation. Last October, a new rule was instituted that reduced the amount of cold-water equipment required from 100% to 67%. In addition, the Coast Guard said out-of-the-water equipment could be loaded to 50% above its rated capacity to meet the requirement. In other words, rafts designed for 500 passengers would be allowed to carry 750. Thus, a vessel with a maximum passenger capacity of 1,000 can meet the Coast Guard's new regulation with out-of-the-water equipment built for 500 passengers.

Manufacturers of the out-of-the-water equipment say their devices are built to handle double the rated capacity but say it's safer to stick to the rated capacity.

"Though life rafts can handle more than the rated capacity, we can't say it's recommended to do this," says Poul Jensen, the U.S.-based general manager for Viking Life-Saving Equipment. "When you go over the rated capacity, it reduces the margin of safety."

Damaged equipment

There's also no guarantee that all out-of-the-water equipment aboard can be used in an emergency. Some might be damaged or inaccessible during a fire or a collision, or simply not in working order. In a December 1998 interview with the trade publication *Workboat*, the Coast Guard's North was asked to identify the most common infractions found by his inspectors. "Defective or missing lifesaving equipment is a common infraction on some vessels," he said.

The new Coast Guard rule, which allows boat operators five years to meet the requirements, also has another controversial clause that's opposed by safety advocates. Instead of increasing the amount of out-of-the-water equipment, operators of boats in lakes, bays, sounds and rivers can file plans showing alternate ways to safely evacuate their ships. For example, a boat operator might propose grounding a boat or evacuating passengers to other boats that are scheduled to pass nearby. If the Coast Guard approves the plan, no more out-of-the-water equipment would be needed.

The Coast Guard estimates that half the operators affected by the new rule may opt to file a plan. Washington State Ferries says it will file one. "We wouldn't want to add any survival craft," says Stan Stumbo, the state's naval architect. "Survival craft in the water is a last resort, and we've never lost a person."

The new legislation, as well as the rules affecting small passenger vessels, does not come close to satisfying the NTSB. Since the mid-1980s, the NTSB has called on the Coast Guard to require all passenger ships (except ferries making river runs of 30 minutes or less) to carry out-of-the-water lifesaving equipment for everyone on board. Three years ago, the agency put such a requirement on its Most Wanted Safety Improvement List.

NTSB investigation

In December 1993, the NTSB investigated an accident in which three people on a small passenger boat named the El Toro II died of hypothermia in 54-degree water after abandoning ship in the Chesapeake Bay. The three people who were killed, as well as 16 who survived, had been dangling in the water for 55 to 80 minutes, holding on to a float designed for 20 people. The float, called a "rigid buoyant apparatus," was all the Coast Guard required aboard. The device can save people from drowning but doesn't keep them out of the water.

"The safety board concludes that had the El Toro II been required by the Coast Guard to have out-of-the-water survival craft on board, the three deaths may not have occurred," the NTSB said in its accident report.

In addition, the NTSB faulted the Coast Guard for requiring rigid buoyant apparatus that could accommodate only 30% of the maximum number of passengers and crew aboard. The El Toro II was certified to carry 49 passengers; its single buoyant apparatus was suitable for 20 people.

The El Toro II survivors, hanging on to a flotation device in six- to eight-foot waves, were actually fortunate that the rescue went so well. A 41-foot Coast Guard boat that came to their aid was not designed for rescue missions, the NTSB said, making it difficult to pull people out of the water onto the deck. The rescue went well, however, because the boat was carrying Coast Guard reservists, who tripled the size of the usual crew, the NTSB said.

In September 1988, four people succumbed to hypothermia and drowned after the 46-foot passenger vessel Cougar sank in the Pacific Ocean, 36 miles west of Depoe Bay, Ore. Coast Guard officers, arriving 18 hours after the boat sank, rescued five others. "Additional lives would

have been saved if the Cougar had been required to carry survival craft capable of supporting 100% of the persons on board out of the water," the NTSB said.

Many passenger vessels operate on routes such as Woods Hole, Mass., to Martha's Vineyard, "where visibility is frequently limited because of heavy fog, rain or snow," a 1989 NTSB study said.

If a vessel were to sink in heavy fog, the NTSB said, rescuers probably would not locate all passengers in the water before they died.

"Additionally, vessels responding to an emergency with crews not trained in rescue procedures may inadvertently injure survivors as they maneuver to rescue them," the NTSB said.

The NTSB pointed to a 1985 collision between a passenger ship, the Mississippi Queen, and another boat in the Mississippi River. The Mississippi Queen was equipped with life rafts for only 85 of the 635 people aboard. It took an hour for the first Coast Guard helicopter to arrive and four hours for the first Coast Guard cutter to come to the rescue. If the passengers had been forced to jump into the water, the river current would have swept them a mile away from the accident site in 15 minutes, the NTSB said. "Passengers would have had difficulty swimming to shore in the strong river current and the 52-degree Fahrenheit water temperature, a temperature at which prolonged exposure would lead to hypothermia and perhaps death," the report said.

The NTSB said out-of-the-water protection is also needed to provide: better protection from sharks, support for unconscious or injured survivors, an adequate platform so that survivors don't have to exert themselves to stay above water, a platform that permits the use of survival equipment such as signaling and electronic honing devices and protection from swallowing sea water.

Equipment costly

Mark Hansen, sales manager of life-saving equipment manufacturer DBC Marine Safety Systems, says a single 25-person life raft can cost about \$5,500, and a single 25-person inflatable buoyant apparatus about \$4,000. Enclosed lifeboats, which provide the best out-of-the-water protection and are used on cruise ships, can each cost \$200,000 or more, he says.

John Lasnier, port captain and operations manager for the Steamship Authority, which runs ferries from Cape Cod to Nantucket and Martha's Vineyard, says each life raft costs an estimated \$1,000 to \$1,500 a year to service.

Turlo, the Coast Guard's former inspector, says that operators can shoulder the expense.

"Some argue that it would cost too much and that it depends on how the boat is built, but the cost of lives is what they should be talking about."

The Coast Guard says the rule it passed in October to increase the amount of lifesaving equipment on the 125 or so largest passenger vessels should save 155 lives from 2004 -- the first

year the rule is fully effective -- through 2013. The agency says boat operators will have to spend \$56.9 million to comply.

Safety advocates say that much more must be spent and much more equipment obtained to prevent many more fatalities on all types of passenger boats.

"A Titanic mentality may be settling in again," says marine safety consultant Hiscock. "We're setting ourselves up for a major loss of lives, and people are fools if they think it's not going to happen again. It's not a case of if it's going to happen, it's a case of when it's going to happen."

TEXT OF INFO BOX BEGINS HERE:

Ship accidents

Passenger vessel accidents in U.S. waters from 1985 through 1995 included:

Boat collisions 204

Groundings 769

Strikings^{+1} 438

Fires 211

Flooded vessels 194

Sinkings 131

Capsized vessels 38

Explosions 18

1 -- Boat hits a fixed object, such as a dock.

Source: Transport Canada analysis of Coast Guard records

GRAPHIC, B/W, Dave Merrill, USA TODAY, Source: Coast Guard Switlik, Atlantic Pacific Manufacturing (Chart, Illustration); PHOTOS, Color (2), Shawn G. Henry; Caption: Nora Vittoria: The high-speed catamaran heads away from Boston. The vessel can carry 355 passengers and has out-of-the-water lifesaving equipment for 250. An official says the equipment is carried because the boat goes on winter whale-watching excursions. All aboard: Passengers board the 101-foot Laura at Hingham, Mass. The vessel accommodates 350 passengers and carries no out-of-the-water lifesaving equipment.

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