Passenger Vessel Safety

Safety compromised by outdated passenger weight standards and vessel modifications

The problems

- The average weight of Americans has increased significantly in the past few decades.
- Safety Board investigations show that underestimating the weight of passengers aboard small passenger vessels can contribute to accidents, which can result in injuries or deaths.
- Modifications to vessels, such as adding a canopy or seats, can alter stability.

The accidents

- The 2004 capsizing of the Lady D, a small passenger pontoon-style vessel, in Baltimore Harbor, and the 2005 capsizing of the Ethan Allen, a monohull passenger vessel, on Lake George, New York, took a total of 25 lives.
- The number of people permitted on the Lady D and the Ethan Allen was based on the Coast Guard weight standard of 140 pounds per person. The actual average weight of the passengers on the Lady D was 168 pounds and 178 pounds on the Ethan Allen.
- Based on Safety Board calculations made after the accident, the Lady D carried more than twice the passenger weight that should have been permitted—significantly reducing the reserve buoyancy of the vessel, compromising its stability, and making it more susceptible to capsizing.
- Overloading due to inappropriate passenger weight standards and modification of the vessel were factors in the Ethan Allen accident. Based on Safety Board calculations made after the accident, the Ethan Allen carried more than four times the passenger weight that should have been permitted.

What can small passenger vessel owners and operators do?

- Be aware that an increase in average passenger weight may adversely affect vessel stability due to several factors, including a higher center of gravity, reduced freeboard, and increased passenger heeling moment.
- Follow the Coast Guard’s new voluntary interim measures for domestic vessels to estimate passenger weight and re-evaluate the passenger capacity of vessels for which passenger weight is a limiting stability factor. Passenger capacity might be reduced when using the new suggested average passenger weight of 185 pounds.
- Follow the Coast Guard’s new voluntary guidelines to operate only in “reasonable conditions” if you are an owner or operator of a small passenger vessel operating on protected waters. Coast Guard guidelines say small craft advisories—wind gusts over 30 knots (35 mph), waves over 2 feet, or sustained winds of over 18 knots (21 mph)—signal conditions that are not reasonable.
- Notify Federal or State vessel safety regulators if any significant modifications or changes have been made to your vessel since stability was last evaluated.

Need more information?

- Visit the NTSB’s Web site: http://www.ntsb.gov