



NTSB

SAFETY ALERT

National Transportation Safety Board

★ 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Safety compromised by outdated passenger weight standards and vessel modifications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.nts.gov>
- Domestic Vessel Passenger Weights – Voluntary Interim Measures, *Federal Register*, Vol. 71, No. 80, pages 24732-35, April 26, 2006.