

Technical Notes on the Normalized Vessel Casualty Series

Vessel casualties are incidents involving towboats, tugboats, and barges. Specific casualties are: abandonment, allision (a vessel contacting a fixed object), breakaway, capsizing, collision (contact between moving vessels), equipment failure, explosion, fire, flooding, grounding, loss of electrical power, loss of vessel control, sinking, and structural failure.

The normalized or rate series is used to present fatalities adjusted for year-to-year variations in industry activity. The numerator is the number of vessel casualties. The denominator is the number of trip miles, supplied by the U.S. Army Corps of Engineers. Trip miles are simply the number of miles traveled from origination to destination for each voyage or trip. Using trip miles as the denominator provides a rate that is independent of tonnage or number of vessels.

The table below displays the normalized series and its components:

Year	Number of Vessel Casualties	Millions of Trip Miles	Vessel Casualties per One Million Trip Miles
1994	2,986	48,443,251	61.4
1995	3,641	52,244,443	69.6
1996	3,764	51,422,652	73.1
1997	3,407	51,263,418	66.5
1998	3,405	52,429,891	64.9
1999	2,939	52,136,929	56.4
2000	2,686	52,406,512	51.3

Last updated October 17, 2003