U.S. Coast Guard - American Waterways Operators
Annual Safety Report

August 4, 2025

Established Safety Metrics

For over 30 years, the National Committee of the Coast Guard-AWO Quality Partnership has used three measures to track overall trends in safety and environmental protection. While not all-encompassing, the measures are considered useful indicators of towing industry trends. The measures are:

- Crewmember fatalities per 100,000 towing industry workers.
- Gallons of oil spilled from tank barges per million gallons transported.
- The number and severity of towing vessel casualties.

This report also contains other freight carrying towing industry data and measures for the years 1994 to 2024.

Crewmember Fatalities

Seven crewmember deaths involving freight carrying towing vessels and barges were reported to the Coast Guard in 2024. A review of these casualties revealed that five of the seven reported deaths were directly related to towing vessel operations. The following is a summary of the operational crewmember fatalities:

- While connecting barges, a crewmember fell into the water while trying to break a wire loose with a cheater bar. He was pushed underneath the barges and subsequently drowned.
- The master of the towing vessel, which was pushed into the side of a loaded barge during preparations for building a tow, was found by a deckhand to be deceased in the pilothouse. There was evidence that illegal drug use was a factor. (Activity Number 7849673[1])
- A towing vessel was positioned along the starboard bow of a bulk carrier while making a port to port passing with another cargo ship in a narrow shipping channel. Hydrodynamic forces pushed the towing vessel into the path of the bulk carrier, resulting in a collision and the sinking of the towing vessel. One crewmember was trapped in the galley of the towing vessel and subsequently drowned.
- While departing a mooring, a deckhand handling the forward mooring lines disappeared and was later found in the water. No witnesses observed the fall overboard, and the death was ruled a drowning.
- A crewmember was transferred to a work barge and fell overboard while bending over to retrieve a line from the towing vessel. The crewmember struck his head on the gunnel before entering the water, and the cause of death was determined to be blunt force trauma.

The following is a summary of the two crewmember fatalities reported to the Coast Guard in 2024 that were not directly related to towing vessel or barge operations:

- Two off-duty deckhands left the towing vessel to swim in a tidal pool. Once in the water, one of the deckhands panicked and drowned. Neither deckhand wore a lifejacket.
- While at the dock awaiting orders, the master of the towing vessel experienced a medical event. The death was attributed to pre-existing medical conditions.

In addition to the above, two collisions occurred between recreational boats and towing vessels (and their tows), each resulting in the death of one recreational boat passenger.

The following charts and tables in this section relate to the operational crewmember fatalities only.

[1] MISLE Activity IDs are provided for incident investigation activities with a closed status. The incident investigation report may be viewed on the USCG Maritime Information Exchange, https://cgmix.uscg.mil/IIR/IIRSearch.aspx

Chart 1 displays the crewmember fatalities per year and the 5-year moving average from 1994 to 2024.

Chart 1 – Crewmember Fatalities, 1994 to 2024

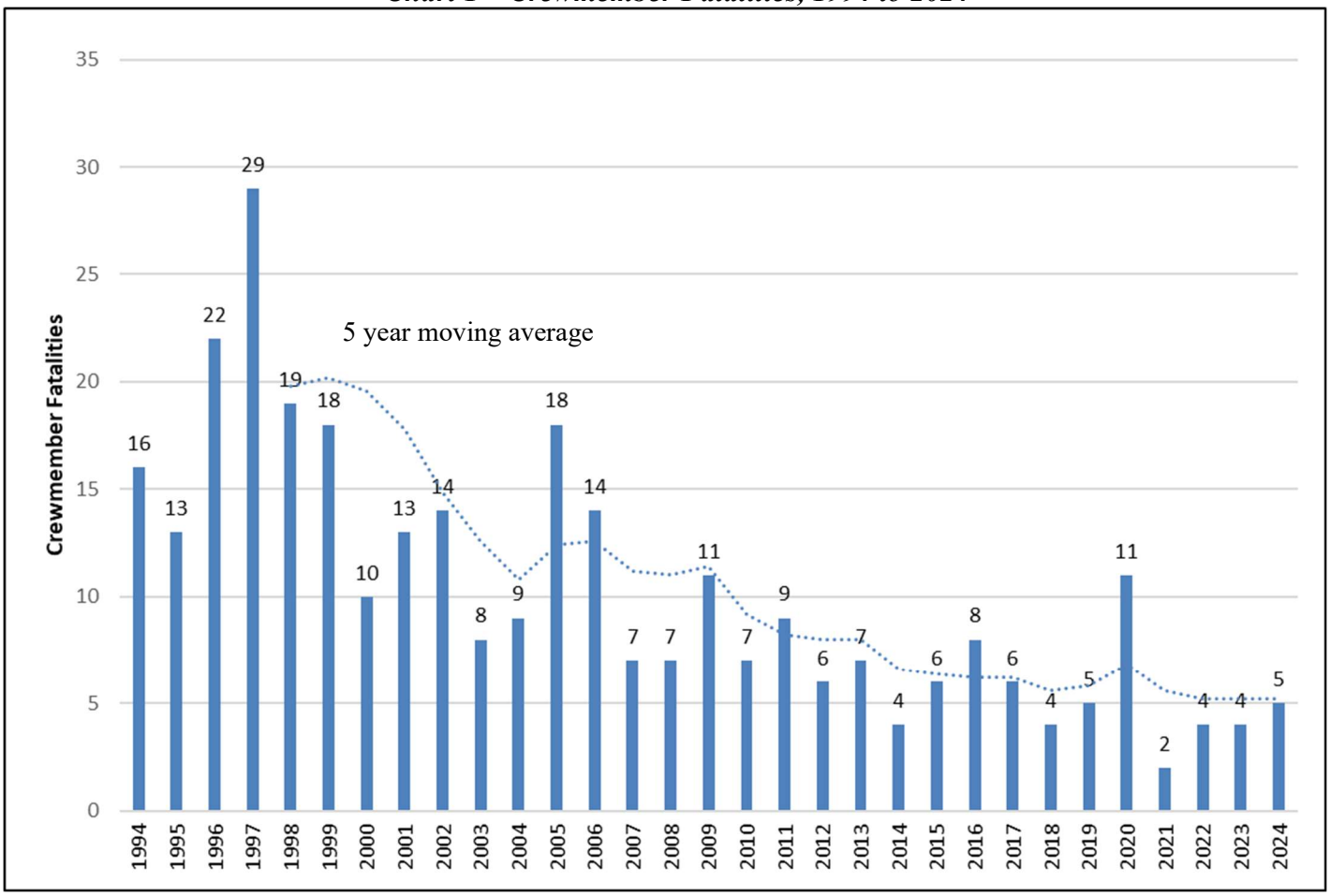


Chart 2 displays the cumulative total of crewmember fatalities by accident type from 2000 to 2024. During this period, the largest number of fatalities were attributed to "Contact Injury – Fall into Water".

Chart 2 – Crewmember Fatalities by Accident Type, 2000 to 2024

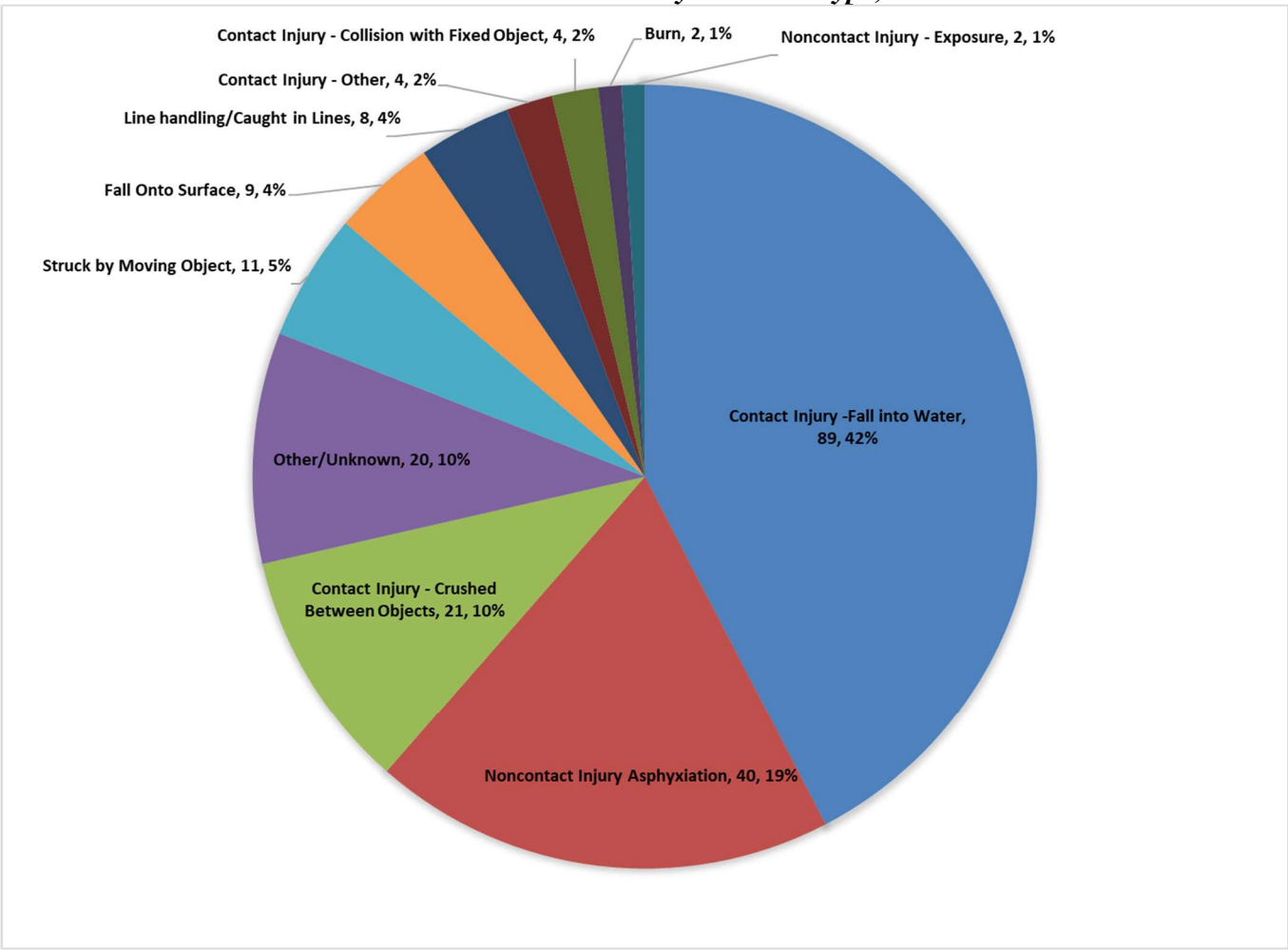


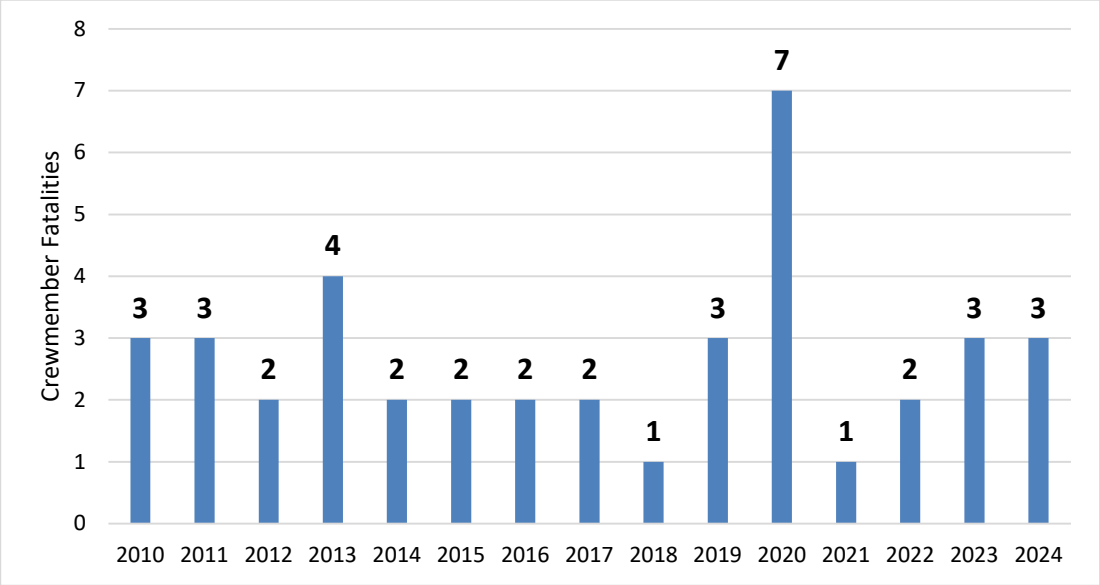
Table 1 compares crewmember fatalities by accident type each year from 2020 to 2024 to the cumulative total of crewmember fatalities by accident type from 2000 to 2024.

Table 1 – Crewmember Fatalities by Accident Type
Last Five Years (2020-2024) versus Cumulative Totals (2000-2024)

						2020 to 2024		2000 to 2024	
Accident Type	**2020**	**2021**	**2022**	**2023**	**2024**	**Counts**	**%**	**Counts**	**%**
Contact Injury -Fall into Water	3	0	0	2	1	6	23.1%	89	42.4%
Noncontact Injury Asphyxiation	4	0	0	1	1	6	23.1%	40	19.0%
Contact Injury - Crushed Between Objects	0	1	2	0	0	3	11.5%	21	10.0%
Other/Unknown	3	1	0	1	2	7	26.9%	20	9.5%
Struck by Moving Object	1	0	0	0	0	1	3.8%	11	5.2%
Fall Onto Surface	0	0	0	0	1	1	3.8%	9	4.3%
Line handling/Caught in Lines	0	0	0	0	0	0	0.0%	8	3.8%
Contact Injury - Other	0	0	0	0	0	0	0.0%	4	1.9%
Contact Injury - Collision with Fixed Object	0	0	1	0	0	1	3.8%	4	1.9%
Burn	0	0	0	0	0	0	0.0%	2	1.0%
Noncontact Injury - Exposure	0	0	1	0	0	1	3.8%	2	1.0%
TOTAL	**11**	**2**	**4**	**4**	**5**	**26**	**100.0%**	**210**	**100.0%**

Chart 3 displays the number of crewmember fatalities resulting from falls overboard from 2010 to 2024. The data in Chart 3 is based on a manual review of the casualty investigations and accounts for all fatalities where the crewmember entered the water, regardless of the "accident type" selected by the marine investigator that is summarized in Chart 2 and Table 1.

Chart 3 – Crewmember Fatalities due to Falls Overboard, 2010-2024

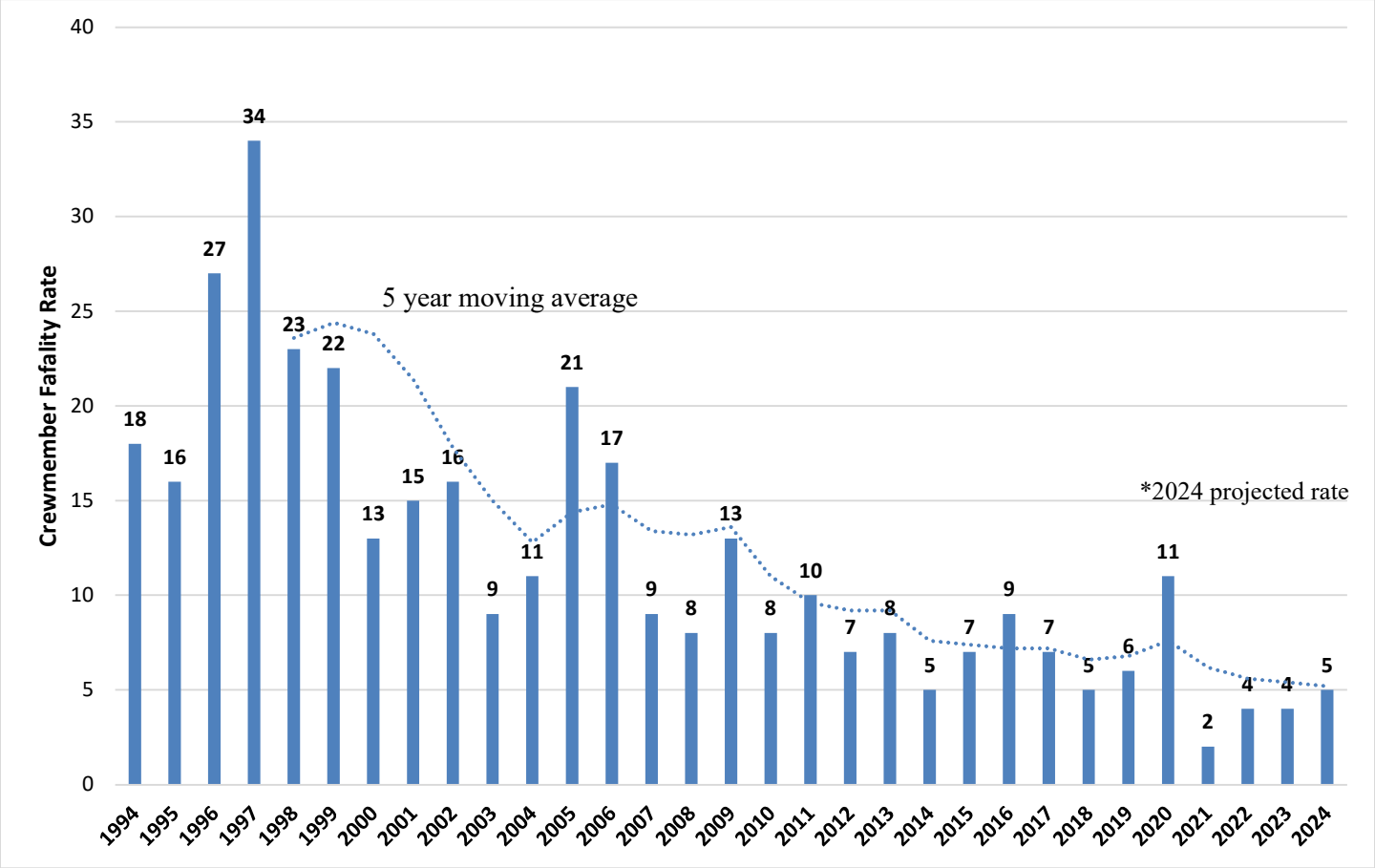


Crewmember Fatality Rate

The towing industry crewmember fatality rate for 2023 was 3.3 fatalities per 100,000 Full Time Employees (FTE). The projected crewmember fatality rate for 2024 is 4.2, which is based on the 2023 data from the U.S. Army Corps of Engineers (ACE)[2]. Chart 4 displays the crewmember fatality rate from 1994 to 2024 with rates rounded up to the nearest whole number.

The crewmember fatality rate is calculated using the "Mercer Model," which was developed through AWO-funded research. This model uses ACE data to calculate the number of FTE in the towing vessel industry. The crewmember fatality rate enables comparison against other worker fatality rates produced by the Bureau of Labor Statistics, which are also expressed by the number of fatalities per 100,000 FTE.

Chart 4 – Crewmember Fatality Rate per 100,000 FTE[3] per Year



[2] The crewmember fatality rate is based on data from the *Waterborne Transportation Lines of the United States* report published by the U.S. Army Corps of Engineers.

[3] One FTE or Full Time Employee is the equivalent of one person working a 40-hour work week for 50 weeks of the year.

For comparison, Table 2 provides the worker fatality rates as calculated by the Bureau of Labor Statistics (BLS) for all workers and for transportation sector workers from 2019 to 2023[4] along with the Towing Industry Crewmember Fatality Rate.

Table 2 – Comparison of Worker Fatality Rates

Data Source	2019	2020	2021	2022	2023
Bureau of Labor Statistics (BLS), All Fatal Work Injuries	3.5	3.4	3.6	3.7	3.5
BLS, Transportation and Material Moving Fatal Work Injuries	13.9	13.4	14.5	14.1	13.6
Towing Industry Crewmember Fatality Rate	5.2	10.6	1.9	3.3	3.3

Table 3 provides the BLS worker fatality counts and rates for all industry sectors for 2023.

Table 3 – Number and Rate of Fatal Work Injuries for 2023 by Industry Sector

Industry	Number of fatal work injuries	Fatal work injury rate (per 100,000 full-time equivalent workers)
Construction	1,075	9.6
Transportation and warehousing	930	12.9
Professional and business services	555	2.9
Agriculture, forestry, fishing, and hunting	448	20.3
Manufacturing	391	2.5
Retail trade	306	2.1
Leisure and hospitality	265	2.3
Other services (exc. Public admin.)	209	3.1
Educational and health services	178	0.8
Wholesale trade	177	5.4

The following are key findings from the 2023 BLS Census of Fatal Occupational Injuries:

- There were 5,283 fatal work injuries recorded in the United States in 2023, a 3.7-percent decrease from 5,486 in 2022. The fatal work injury rate was 3.5 fatalities per 100,000 FTE, down from 3.7 in 2022.
- Transportation incidents were the most frequent type of fatal event, accounting for 36.8 percent (1,942) of all occupational fatalities in 2023.
- Opioids were the primary cause of 162 fatalities and a contributor in an additional 144 fatalities where multiple drugs were the cause.
- Workers in transportation and material moving occupations represented the occupational group with the most fatalities (1,495) in 2023. However, fatalities for this group declined 7.7 percent from 2022, driven by an 11.9-percent decrease in fatal injuries to heavy and tractor-trailer truck drivers.

[4] *Census of Fatal Occupational Injuries – Current,* https://www.bls.gov/news.release/cfoi.nr0.htm

Oil Spill Volumes

Approximately 15,756 gallons of oil were spilled into U.S. navigable waterways as a result of 42 operational tank barge pollution incidents in 2024. Chart 5 displays the total gallon quantity of oil spilled from tank barges annually from 1994 to 2024. Chart 6 displays the same information for the period from 2010 to 2024.

Chart 5 – Gallons (in thousands) of Oil Spilled from Tank Barges per Year, 1994 to 2024

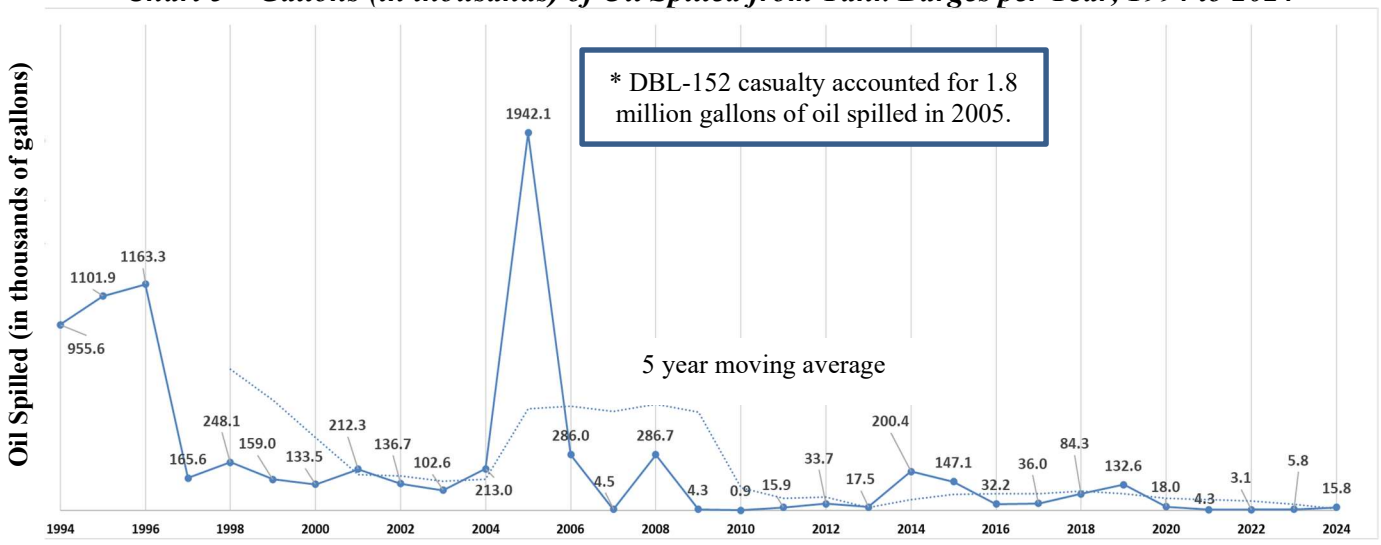


Chart 6 – Gallons (in thousands) of Oil Spilled from Tank Barges per Year, 2010 to 2024

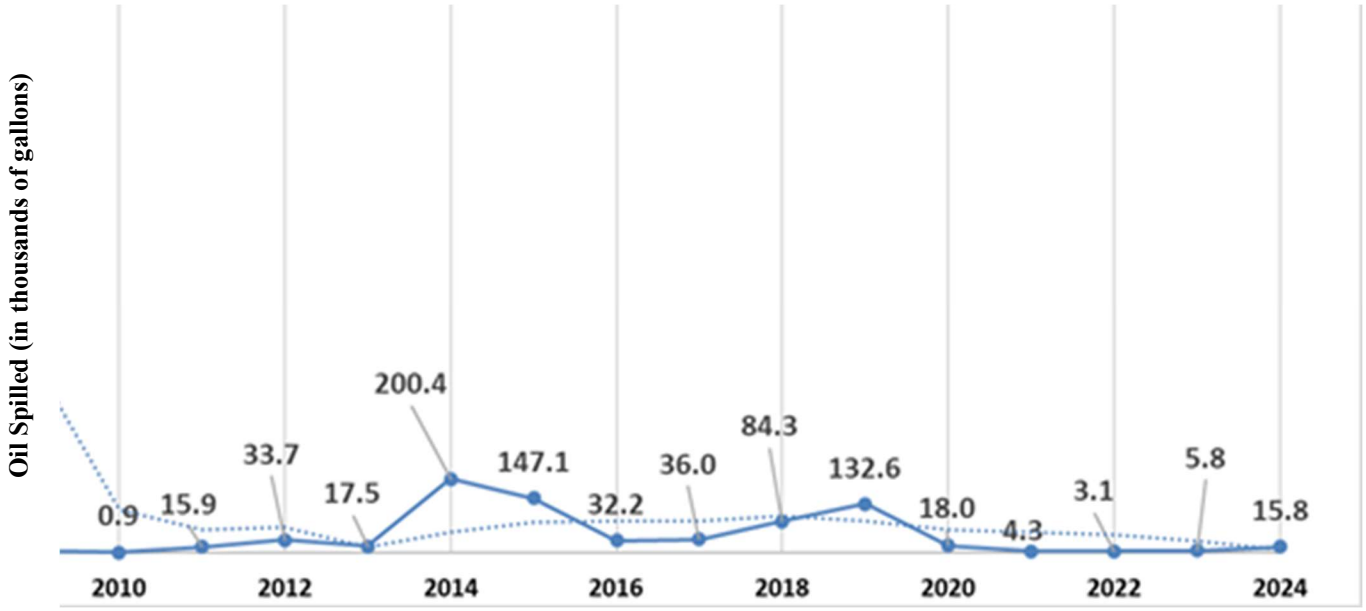


Table 4 provides the number of tank barge oil spills and the total volume of oil discharged into the water by oil spill discharge category. In 2024, the two largest oil spills accounted for 92.7% of the total volume of oil spilled from tank barges.

Table 4 – Tank Barge Oil Spills by Spill Size Category for 2024

Discharge Category (in gallons)	Count of Discharge Category	Sum of Discharge Amounts into Water (gallons)
less than 1	21	19
1 to 10	11	59
10 to 100	6	144
100 to 1000	2	926
more than 1000	2	14,608
Total	**42**	**15,756**

The following is a summary of the causes of the two largest oil spills involving tank barges:

- A loaded tank barge broke free from the towing vessel and struck a bridge, which resulted in damage to the tank barge and an oil discharge of approximately 6,208 gallons.
- During an oil transfer, the tankerman overfilled the tank resulting in an oil discharge of approximately 8,400 gallons.

Table 5 provides the number of towing vessel oil spills and total volume of oil discharged into the water by oil spill discharge category. The three largest oil spills account for 92.1% of the total volume spilled from towing vessels in 2024.

Table 5 – Towing Vessel Oil Spills by Spill Size Category for 2024

Discharge Category (in gallons)	Count of Discharge Category	Sum of Discharge Amounts into Water (gallons)
less than 1	55	43
1 to 10	38	231
10 to 100	29	1,154
100 to 1000	2	240
more than 1000	3	19,316
Total	**127**	**20,984**

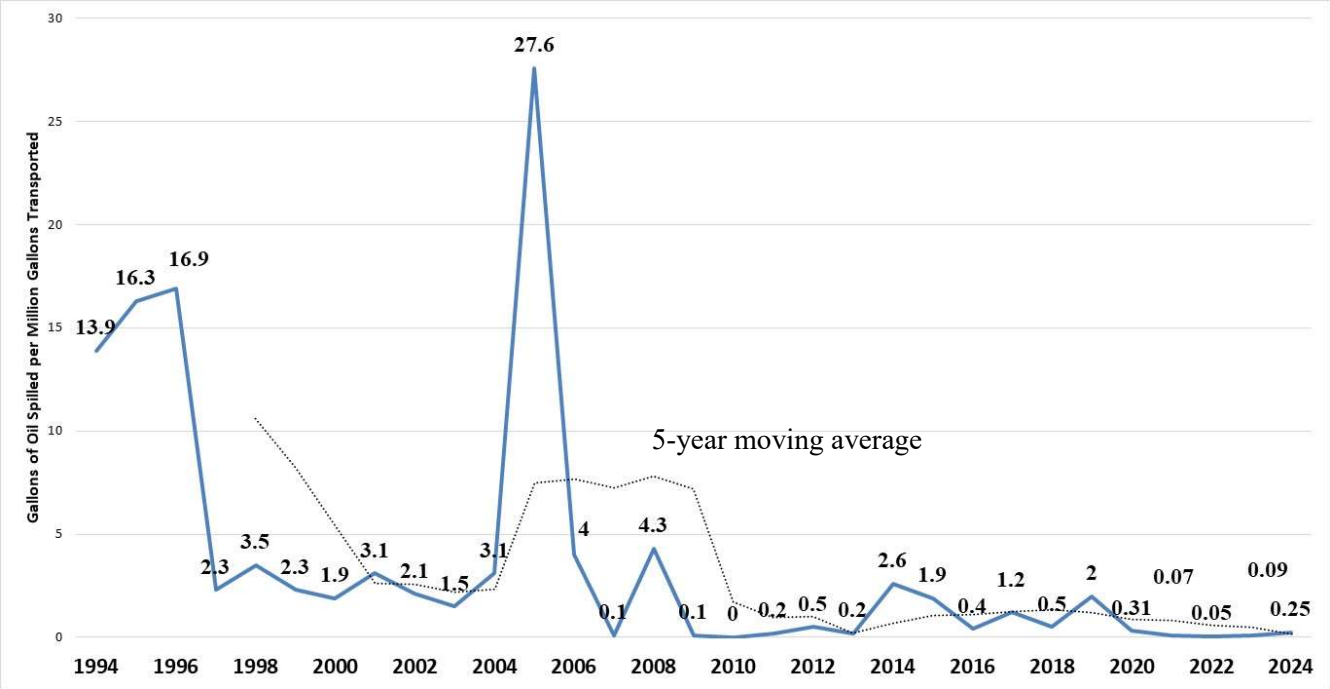
The following is a summary of the causes of the three largest oil spills involving towing vessels:

- A towing vessel allided with a submerged dredge pipe that caused hull damage and an oil discharge of approximately 2,000 gallons.
- A towing vessel was involved in a collision with another vessel that resulted in damage to both vessels and an oil discharge of approximately 16,000 gallons.
- A towing vessel sank at the dock resulting in an oil discharge of approximately 1,316 gallons.

Oil Spill Rate

The tank barge oil spill rate is calculated using data from both the Coast Guard and the ACE. Based on 2023 ACE data, the oil spill rate for 2023 was 0.09 gallons of oil spilled for every million gallons of oil transported, and the projected oil spill rate for 2024 is 0.25. Chart 7 shows the oil spill rates for the years 1994 to 2024.

Chart 7 – Oil Spill Rate (Gallons of Oil Spilled by Tank Barges per Million Gallons Transported)



** The oil spill rate for 2024 is a projected rate.*

For reference, the following table provides the tank barge commodity data from ACE from 2014 to 2023.

Table 6 – Petroleum Transported by Tank Barges per Year

Calendar Year	Petroleum Transported by Tank Barge (in short-tons)	% change (year to year)
2014	278,851,000	+2.11%
2015	282,993,000	+1.49%
2016	272,757,000	-3.62%
2017	258,582,089	-5.20%
2018	244,432,497	-5.47%
2019	245,970,000	+0.06%
2020	214,134,000	-12.9%
2021	217,009,000	+1.3%
2022	231,181,000	+6.5%
2023	228,709,000	-1.07%

Severity of Vessel Incidents

There were 1,052 incidents in 2024 involving towing vessels or barges that were investigated by the Coast Guard. All incidents for 2024 were scored using the scale developed by the National Quality Steering Committee (NQSC). Each incident is counted only once, regardless of the number of vessels involved or events recorded by the Coast Guard during the marine casualty investigation. Table 7 provides the number of towing vessel or barge incidents by NQSC Severity Class from 2020 to 2024.

Table 7 – Incidents by NQSC Severity Class

NQSC Severity Class	2020	2021	2022	2023	2024	Total
Low	975	964	952	1030	787	**4,708**
Medium	130	109	142	145	109	**635**
High	157	163	151	126	156	**753**
Total	**1,262**	**1,236**	**1,245**	**1,304**	**1,025**	**6,072**

NQSC Severity Classes for Towing Vessel Casualties

Incident Severity	Description
Low	Damage: $0 - $50,000 or not reported No injuries or deaths Pollution: 0 - 10 gallons of oil spilled CG Casualty Class: None/Routine
Medium	Damage: $50,001 - $250,000 No injuries or deaths Pollution: 11 - 1,000 gallons of oil spilled CG Casualty Class: “Significant”
High	Damage: $250,001 or more ANY injuries or deaths Pollution: 1,001 or more gallons spilled CG Casualty Class: “Serious” or “Major”

Severity of Crewmember Injuries

There were 103 incidents involving towing vessels or barges in 2024 that resulted in 104 injuries to crewmembers. Table 8 displays the number of injuries by USCG injury severity category from 2020 to 2024. For reference, the USCG Injury Severity Scale is provided on the following page.

Table 8 – Number of Injuries by USCG Injury Severity Category, 2020 to 2024

Injury Severity	2020	2021	2022	2023	2024	Total	% Total
Critical	0	0	2	0	1	3	0.59%
Severe	5	2	3	1	2	13	2.54%
Serious	22	24	15	6	19	86	16.80%
Moderate	45	56	40	43	56	240	46.88%
Minor	38	39	41	26	26	170	33.20%
Total	**110**	**121**	**101**	**76**	**104**	**512**	**100.00%**

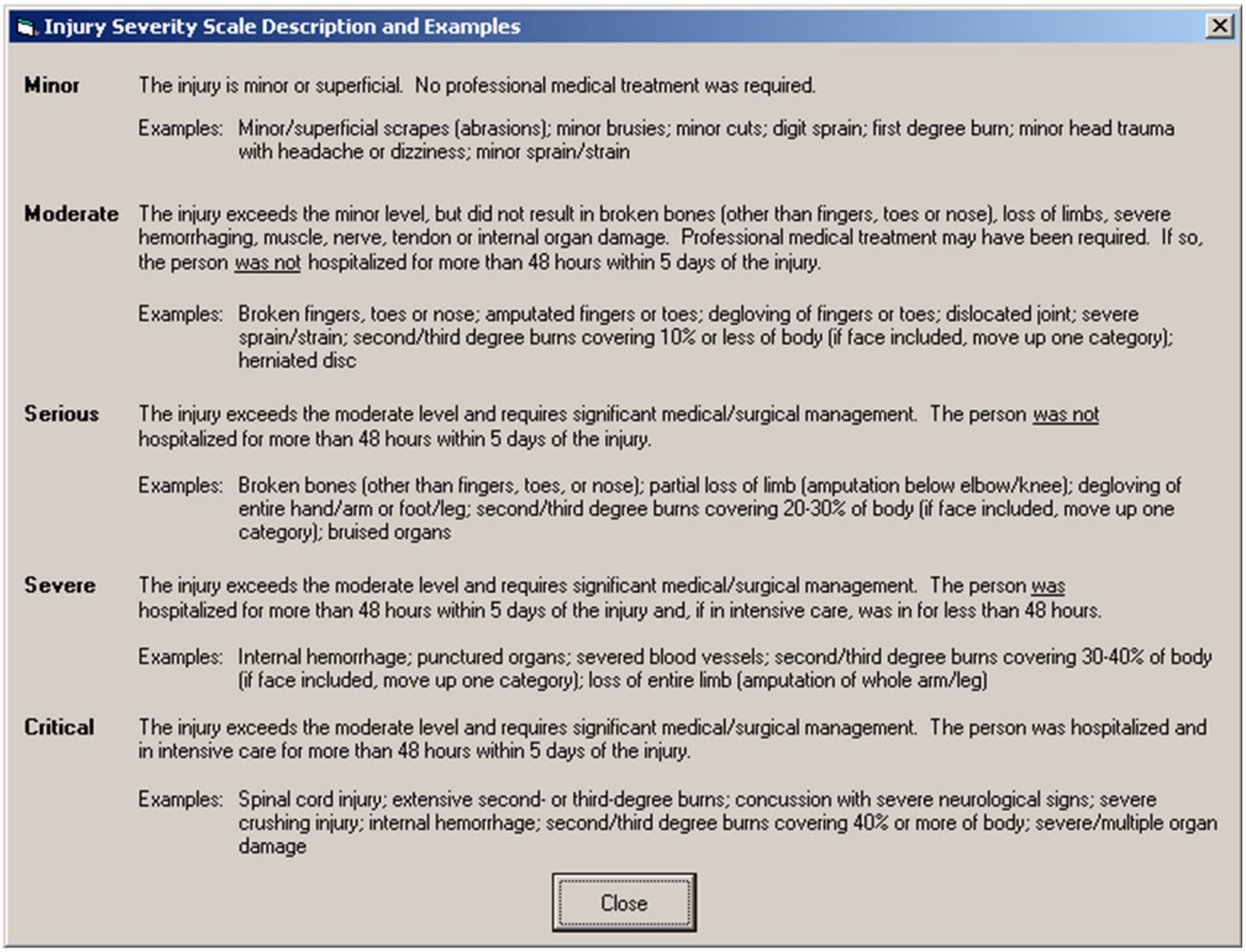
Table 9 provides a breakdown of the critical, severe, and serious injuries by accident type for 2024.

Table 9 – Critical, Severe, Serious Injuries by Accident Type for 2024

Accident Type	Critical	Severe	Serious	Total
Contact Injury- Collision with Fixed Object			2	2
Contact Injury- Crushed between objects			1	1
Contact Injury- Fall onto surface			8	8
Contact Injury- Line handling/caught in lines	1	2	2	5
Contact Injury- Other			2	2
Contact Injury- Struck by Moving Object			3	3
Overexertion Injury- Strain or sprain			1	1
Grand Total	**1**	**2**	**19**	**22**

From 2022 to 2024, falls and line handling incidents accounted for 47% of the critical, severe, and serious injuries to towing vessel crewmembers

USCG Injury Severity Scale



This verbiage is taken from the Marine Information for Safety and Law Enforcement (MISLE) Incident Investigation Activity User Guide, which provides data entry guidance for Coast Guard Investigating Officers.

Instructions for Reviewing Incident Investigation Reports on the USCG Maritime Information Exchange

The USCG Maritime Information Exchange (CGMIX) is a public portal that provides access to Incident Investigation Reports (IIR) that have been closed by the Coast Guard.

To access an IIR:

1. Go to: https://cgmix.uscg.mil/IIR/IIRSearch.aspx
2. Enter the Activity Number for the IIR.

3. Click on the View Details hyperlink to see the redacted IIR.