## RECREATIONAL BOATING STATISTICS 2008



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U.S. Department of Homeland Security
U.S. Coast Guard

Office of Auxiliary and Boating Safety


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## FOREWORD

Under the authority of Title 46, United States Code, the Prevention Policy Directorate has been delegated the responsibility to collect, analyze, and annually publish statistical information obtained from recreational boat numbering and casualty reporting systems. Within the Directorate, the Office of Auxiliary and Boating Safety, Boating Safety Division has Recreational Boating Safety Program responsibility.

Recreational Boating Statistics 2008, the 50th annual report, contains statistics on recreational boating accidents and state vessel registration. This publication is a result of the coordinated effort of the Coast Guard and those states and territories that have Federally approved boat numbering and casualty reporting systems. These include the District of Columbia, Puerto Rico, Guam, the Virgin Islands, American Samoa, the Commonwealth of the Northern Mariana Islands, and all states.

Recreational Boating Statistics 2008 may be copied and distributed freely in the interest of boating safety. For questions and suggestions regarding content, use the address, telephone number, or email address at the top of this page. For an electronic copy, visit the Boating Safety Division website at www.uscgboating.org.


Rear Admiral, U.S. Coast Guard
Director, Prevention Policy

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## Table of Contents

Introduction
2008 Executive Summary ..... 6-7
Overview of Statistics ..... 8
Accident Reporting as Required by Federal Law ..... 9
Casualty and Accident Reporting Guidelines ..... 9
"Reportable" Boating Accidents ..... 9-10
"Non-Reportable" Boating Accidents ..... 10-11
Use of Statistics ..... 11
Accident Causes and Conditions Tables with Explanation ..... 12-14
Table $4 \quad$ Percent of Accidents that are Fatal by Month ..... 15
Figure $1 \quad$ Percent of Accidents that are Fatal by Month (graph) ..... 15
Table $5 \quad$ Primary Contributing Factor of Accidents \& Casualties ..... 16
Table 6 Machinery \& Equipment Primary Contributing Factor of Accidents \& Casualties ..... 17
Figure $2 \quad$ Primary Contributing Factor of Accidents (graph) ..... 18
Figure 3 Primary Contributing Factor of Deaths (graph) ..... 19
Figure $4 \quad$ Primary Contributing Factor of Injuries (graph) ..... 20
Table $7 \quad$ Number of Vessels in Accidents by Vessel Type \& Primary Contributing Factor ..... 21
Table 8 Alcohol Use as a Contributing Factor in Accidents \& Casualties by State 04-08 ..... 22
Table $9 \quad$ Vessel Operation at the Time of Accident ..... 23
Table $10 \quad$ Vessel Activity at the Time of Accident ..... 23
Table 11 Weather \& Water Conditions ..... 24
Table 12 Time Related Data ..... 25
Table 13 Vessel Information ..... 26
Table $14 \quad$ Rental Status of Vessels Involved in Accidents ..... 27
Table 15 Number \& Percentage of Deaths by Vessel Length ..... 28
Figure $5 \quad$ Number of Deaths by Vessel Length (graph) ..... 28
Accident Types Tables with Explanation ..... 29-31
Table 16 Accident, Vessel \& Casualty Numbers by Accident Type ..... 32
Table 17 Five-year Summary of Accident Types ..... 33-35
Table 18 Frequency of Accident Types in Accidents \& Casualties Nationwide ..... 36
Table 19 Number of Vessels in Accidents by Vessel Length \& Primary Accident Type ..... 37
Table $20 \quad$ Number of Vessels in Accidents by Vessel Type \& Primary Accident Type ..... 38
Table $21 \quad$ Number of Vessels in Accidents by Primary Accident Type \& Propulsion Type ..... 39
Table 22 Number of Vessels in Accidents by Primary Accident Type \& Engine Type ..... 39
Operator/Passenger Information Tables with Explanation ..... 40-41
Table 23 Operator Information ..... 42
Table 24 Life Jacket Information ..... 43
Table $25 \quad$ Number of Deaths by Type of Operator Boating Instruction ..... 44
Figure $6 \quad$ Number of Deaths by Known Operator Instruction (graph) ..... 44
Table 26 Number of Deaths by Vessel Type ..... 45
Figure $7 \quad$ Number of Deaths by Vessel Type (graph) ..... 45
Table $27 \quad$ Number of Injured Victims by Age \& Vessel Type ..... 46
Table 28 Number of Deceased Victims by Age \& Vessel Type ..... 47
Casualty Summary Data Tables with Explanation ..... 48-49
Figure 8 Deaths, Injuries \& Accidents by Year, 1996-2008 (graph) ..... 50
Table 29 Deaths, Injuries \& Accidents by Year, 1996-2008 ..... 51
Table 30 Accident, Casualty \& Damage Data by State ..... 51
Figure $9 \quad$ Distribution of 2008 Deaths by State Expressed as a Percentage ..... 52
Figure 10 Annual Recreational Boating Fatality Rates 1996-2008 ..... 53
Table 31 Annual Recreational Boating Fatality Rates 1996-2008 ..... 53
Figure $11 \quad$ States Coded by their 2008 Fatality Rate ..... 54
Table 32 Five-year Summary of Selected Accident Data by State ..... 55
Table $33 \quad$ Number of Accidents by Primary Accident Type \& State ..... 56-57
Table $34 \quad$ Number of Injured Victims by Primary Injury \& Vessel Type ..... 58
Table $35 \quad$ Number of Fatal Victims by Life Jacket Wear, Cause of Death, \& Vessel Type ..... 58
Registration Data Tables with Explanation ..... 58-60
Table 36 Recreational Vessels Registered by Year, 1980-2008 ..... 61
Figure 12 Recreational Vessels Registered by Year, 1980-2008 (graph) ..... 61
Table 37 Recreational Vessel Registration by Length \& Means of Propulsion ..... 62
Table 38 Recreational Vessel Registration Data by State ..... 63
Figure 13 Distribution of 2008 Recreational Vessel Registration by State ..... 64
Boating Accident Report Form ..... 65-68
Glossary of Terms ..... 69-72
Glossary of State Codes ..... 73

## List of Tables

Table 1
Table 2
Table 3
Table 4
Table 5
Table 6
Table 7
Table 8
Table 9
Table 10
Table 11
Table 12
Table 13
Table 14
Table 15
Table 16
Table 17
Table 18
Table 19
Table 20
Table 21
Table 22
Table 23
Table 24
Table 25
Table 26
Table 27
Table 28
Table 29
Table 30
Table 31
Table 32
Table 33
Table 34
Table 35
Table 36
Table 37
Table 38

2008 Executive Summary
7
News Media Accidents and Casualties 8
Non-Reportable Scenarios with their Casualty Count 11
Percent of Accidents that are Fatal by Month 15
Primary Contributing Factor of Accidents \& Casualties 16
Machinery \& Equipment Primary Contributing Factor of Accidents \& Casualties 17
Number of Vessels in Accidents by Vessel Type \& Primary Contributing Factor 21
Alcohol Use as a Contributing Factor in Accidents \& Casualties by State 04-08 22
Vessel Operation at the Time of Accident 23
Vessel Activity at the Time of Accident 23
Weather \& Water Conditions 24
Time Related Data 25
Vessel Information 26
Rental Status of Vessels Involved in Accidents 27
Number and Percentage of Deaths by Vessel Length 28
Accident, Vessel \& Casualty Numbers by Accident Type 32
Five-year Summary of Accident Types 33-35
Frequency of Accident Types in Accidents \& Casualties Nationwide 36
Number of Vessels in Accidents by Vessel Length \& Primary Accident Type 37
Number of Vessels in Accidents by Vessel Type \& Primary Accident Type 38
Number of Vessels in Accidents by Primary Accident Type \& Propulsion Type 39
Number of Vessels in Accidents by Primary Accident Type \& Engine Type 39
Operator Information 42
Life Jacket Information 43
Number of Deaths by Type of Operator Boating Instruction 44
Number of Deaths by Vessel Type 45
Number of Injured Victims by Age \& Vessel Type 46
Number of Deceased Victims by Age \& Vessel Type 47
Deaths, Injuries \& Accidents by Year, 1996-2008 50
Accident, Casualty \& Damage Data by State 51
Annual Recreational Boating Fatality Rates 1996-2008 53
Five-year Summary of Selected Accident Data by State 55
Number of Accidents by Primary Accident Type \& State 56-57
Number of Injured Victims by Primary Injury \& Vessel Type 58
Number of Fatal Victims by Life Jacket Wear, Cause of Death \& Vessel Type 58
Recreational Vessels Registered by Year, 1980-2008 61
Recreational Vessel Registration by Length \& Means of Propulsion 62
Recreational Vessel Registration Data by State 63

## List of Figures

Figure
Figure
Figure 3
Figure 4
Figure $5 \quad$ Number of Deaths by Vessel Length 28
Figure $6 \quad$ Percent of Deaths by Known Operator Instruction 44
Figure $7 \quad$ Number of Deaths by Vessel Type 45
Figure $8 \quad$ Deaths, Injuries \& Accidents by Year, 1996-2008 50
Figure $9 \quad$ Distribution of 2008 Deaths by State Expressed as a Percentage 52
Figure $10 \quad$ Annual Recreational Boating Fatality Rates 1996-2008 53
Figure $11 \quad$ States Coded by their 2008 Fatality Rate 54
Figure $12 \quad$ Recreational Vessels Registered by Year, 1990-2008 61
Figure 13 Distribution of 2008 Recreational Vessel Registration by State 64

## 2008 EXECUTIVE SUMMARY

- In 2008, the Coast Guard counted 4789 accidents that involved 709 deaths, 3331 injuries and approximately $\$ 54$ million dollars of damage to property as a result of recreational boating accidents.
- Over two-thirds of all fatal boating accident victims drowned, and of those, ninety (90) percent were not wearing a life jacket.
- Only ten percent of deaths occurred on boats where the operator had received boating safety instruction.
- Seven out of every ten boaters who drowned were using boats less than 21 feet in length.
- Careless/reckless operation, operator inattention, no proper lookout, operator inexperience and passenger/skier behavior rank as the top five primary contributing factors in accidents.
- Alcohol use is the leading contributing factor in fatal boating accidents; it was listed as the leading factor in $17 \%$ of the deaths.
- Eleven children under age thirteen lost their lives while boating in 2008. 63\% of the children who died in 2008 died from drowning.
- The most common types of vessels involved in reported accidents were open motorboats (43\%), personal watercraft (23\%), and cabin motorboats (15\%).
- The $12,692,892$ boats registered by the states in 2008 represent a $1.4 \%$ decrease from last year when $12,875,568$ boats were registered.

| TOP FIVE PRIMARY ACCIDENT TYPES |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Accident Rank | Accident T |  | Number of | ccidents | Number of Deaths | Number of Injuries |
| 1 | Collision with Vessel |  | 123 |  | 60 | 856 |
| 2 | Flooding/swamping |  | 47 |  | 89 | 179 |
| 3 | Collision with Fixed | bject | 44 |  | 53 | 328 |
| 4 | Falls Overboard |  | 43 |  | 188 | 257 |
| 5 | Skier Mishap |  | 38 |  | 10 | 397 |
| VESSEL TYPES WITH THE TOP CASUALTY NUMBERS |  |  |  |  |  |  |
| Casualty Rank | Type of Boat | Drownings | Other Deaths | Total Deaths | Total Injuries | Total Casualties |
| 1 | Open Motorboat | 252 | 101 | 353 | 1669 | 2022 |
| 2 | Personal Watercraft | 17 | 28 | 45 | 920 | 965 |
| 3 | Cabin Motorboat | 27 | 32 | 59 | 296 | 355 |
| 4 | Canoe/Kayak | 100 | 14 | 114 | 129 | 243 |
| 5 | Rowboat | 39 | 4 | 43 | 48 | 91 |
| LIFE JACKET WEAR BY CAUSE OF DEATH |  |  |  |  |  |  |
| Cause of Death Rank | Cause of Death |  | Number of Deaths | Life Jacket |  |  |
|  |  |  | Worn | Not Worn | Unknown if worn |
| 1 | Drowning |  |  | 510 | 46 | 459 | 5 |
| 2 | Trauma |  | 124 | 33 | 90 | 1 |
| 3 | Hypothermia |  | 12 | 7 | 5 | 0 |
| 4 | Carbon Monoxide Po | soning | 11 | 0 | 11 | 0 |
| 5 | Other |  | 8 | 1 | 7 | 0 |
| 6 | Cardiac Arrest |  | 7 | 1 | 6 | 0 |
|  | Unknown |  | 37 | 2 | 32 | 3 |


| TOP TEN KNOWN PRIMARY CONTRIBUTING FACTORS OF ACCIDENTS |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Accident Rank | Contributing Factor | Number of Accidents | Number of <br> Deaths | Number of <br> Injuries |
| 1 | Careless/Reckless Operation | 492 | 32 | 390 |
| 2 | Operator Inattention | 488 | 28 | 329 |
| 3 | No Proper Lookout | 430 | 24 | 331 |
| 4 | Operator Inexperience | 429 | 40 | 315 |
| 5 | Passenger/Skier Behavior | 383 | 57 | 335 |
| 6 | Machinery Failure | 292 | 24 | 117 |
| 7 | Excessive Speed | 282 | 29 | 268 |
| 8 | Alcohol Use | 276 | 124 | 246 |
| 9 | Weather | 262 | 54 | 131 |
| 10 | Force of Wave/Wake | 216 | 4 | 193 |

## Introduction

The purpose of the Coast Guard Recreational Boating Safety (RBS) program is to improve the safety of recreational boating so that the number of deaths and injuries decrease on the nation's waterways.

## Mission of the National Recreational Boating Safety Program

The mission of the National RBS Program is "to ensure the public has a safe, secure, and enjoyable recreational boating experience by implementing programs that minimize the loss of life, personal injury, and property damage while cooperating with environmental and national security efforts."

## Overview of Statistics

This report contains statistics on recreational registered vessels and boating accidents during calendar year 2008. Data used to compile the recreational boating accident statistics come from three sources:

- Boating Accident Report data forwarded to the Coast Guard by states with an approved casualty reporting system; and
- Reports of Coast Guard investigations of fatal boating accidents that occurred on waters under Federal jurisdiction. Recreational boating accident investigation data are used if submitted to the Coast Guard and are relied on as much as possible to provide accurate accident statistics. In the absence of investigation data, information is collected from the accident reports filed by boat operators; and
- Reports received from news media sources that the Coast Guard did not receive investigative data on by the state. The following table reflects the number of accidents, deaths, injuries, and losses of vessels that were captured in news media sources for which the Coast Guard did not receive a report:

| Table 2 - NEWS MEDIA ACCIDENTS AND CASUALTIES |  |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: | :---: |
|  | Accidents | Deaths | Injuries | Losses of vessels | Damages |
| Nationally | 13 | 13 | 5 | 4 | $\$ 472,865$ |

* A glossary of jurisdiction codes is listed on page 72 of this report.


## Accident Reporting as Required by Federal Law

Under federal regulations (33 CFR Part 173; Subpart C - Casualty and Accident Reporting) the operator of any numbered vessel that was not required to be inspected or a vessel that was used for recreational purposes is required to file a Boating Accident Report (BAR) when, as a result of an occurrence that involves the vessel or its equipment:

1. A person dies; or
2. A person disappears from the vessel under circumstances that indicate death or injury; or
3. A person is injured and requires medical treatment beyond first aid; or
4. Damage to vessels and other property totals $\$ 2,000$ or more; or
5. There is a complete loss of any vessel.

If the above conditions are met, the federal regulations state that the operator or owner must report their accident to a state reporting authority, abbreviated in this publication as "state". The reporting authority can be either the state where the accident occurred, the state in which the vessel was numbered, or, if the vessel does not have a number, the state where the vessel was principally used. The owner must submit the report if the operator is deceased or unable to make the report.

The regulations also state the acceptable length of time in which the accident report must be submitted to the reporting authority. Boat operators or owners must submit:

1. Accident reports within 48 hours of an occurrence if:
a. A person dies within 24 hours of the occurrence; or
b. A person requires medical treatment beyond first aid; or
c. A person disappears from the vessel.
2. Accident reports within 10 days of an occurrence if there is damage to the vessel/property only.

The minimum reporting requirements are set by Federal regulation, but states are allowed to have more stringent requirements. For example, some states have a lower threshold for reporting damage to vessels and other property.

Federal Regulations (33 CFR 174.121) require accident report data to be forwarded to Coast Guard Headquarters within 30 days of receipt by a state.

The statistics in this publication cover boating accidents reported on waters of joint federal and state jurisdiction and exclusive state jurisdiction. Most states use Boating Accident Report forms that are similar to the Coast Guard form. A copy of the Coast Guard BAR form used for this report is on pages 65-68. A newer Coast Guard form was approved by the Office of Management and Budget in the summer of 2008. However, because the form was not updated in the Coast Guard's electronic accident reporting database until early 2009, the form was not used for this year's data collection.

## Casualty and Accident Reporting Guidelines

Casualty and accident reporting applies to each "vessel" used by its operator for recreational purposes or vessels that are required to be numbered and are not subject to inspection.

The term "vessel" includes every description of watercraft or other artificial contrivance used, or capable of being used, as a means of transportation on the water. Terms used to describe the various types of watercraft are: airboats, auxiliary sailboats, cabin motorboat, canoe, houseboat, inflatable boat, kayak, open motorboat, personal watercraft, pontoon boat, raft, rowboat, and sailboat. Unmodified inner tubes have not been determined to be "vessels" to date and thus any accident that only involves an unmodified inner tube has not been included in the statistics in the main body of this report.

## "Reportable" Boating Accidents

A vessel is considered to be involved in a "boating accident" whenever a death, missing person, personal injury, property damage, or total vessel loss results from the vessel's operation, construction, seaworthiness, equipment, or machinery.

The following are examples of accident types that are used in this report:

- Grounding, capsizing, sinking, flooding or swamping
- Falls on, in or overboard a vessel
- Persons ejected from a vessel
- Fire or explosions that occur while underway and while anchored, moored or docked if the fire resulted from the vessel or vessel equipment.
- Water-skiing or other mishap involving a towable device
- Collision with another vessel or object
- Striking a submerged object
- A person struck by a vessel, propeller, propulsion unit, or steering machinery
- Carbon monoxide exposure
- Electrocution due to stray current related to a vessel
- Casualties while swimming from a vessel that is not anchored, moored or docked.
- Casualties where natural causes served as a contributing factor in the death of an individual but the determined cause of death was drowning.
- Casualties from natural phenomena such as interaction with marine life (i.e. leaping sturgeon causes casualty to person) and interaction with nature (i.e. mountain side falls onto vessel causing casualties).
- Casualties where a person falls off an anchored vessel.


## "Non-Reportable" Boating Accidents

Not every occurrence involving a vessel is considered within the scope of the National Recreational Boating Safety Program. The following occurrences involving a vessel may be required to be reported to the state, but for statistical purposes are excluded from this report and are considered "non-reportable" boating accidents:

- A person dies, is injured, or is missing as a result of self-inflicted wounds, alcohol poisoning, gunshot wounds, or the ingestion of drugs, controlled substances or poison.
- A person dies, is injured, or is missing as a result of assault by another person or persons while aboard a vessel.
- A person dies or is injured from natural causes while aboard a vessel.
- A person dies, is injured, or is missing as a result of jumping, diving, or swimming for pleasure from an anchored, moored or docked vessel.
- A person dies, is injured, or is missing as a result of swimming to retrieve an object or a vessel that is adrift from its mooring or dock, having departed from a place of inherent safety, such as the shore or pier.
- Property damage occurs or a person dies, is injured, or is missing while preparing a vessel for launching or retrieving and the vessel is not on the water and capable / ready for its intended use.
- Property damage occurs or a person dies, is injured, or is missing as a result of a fire on shore or a pier that spreads to a vessel or vessels.
- Property damage occurs to a docked or moored vessel or a person dies, is injured, or is missing from such a vessel as a result of storms, or unusual tidal or sea conditions; or when a vessel gets underway in those conditions in an attempt to rescue persons or vessels.
- Property damage occurs to a docked or moored vessel due to lack of maintenance on the vessel.
- Property damage occurs to a docked or moored vessel due to theft or vandalism.
- Property damage occurs to, a person dies or is injured on, or a person is missing from a non-propelled houseboat or other vessel used primarily as a residence when such a vessel is not underway.
- Casualties that result from falls from or on docked vessels or vessels that are moored to a permanent structure.
- Casualties that result from a person climbing aboard an anchored vessel from the water or
swimming near an anchored vessel.
- Fire or explosions on anchored, docked or moored boats where the cause of the fire was not attributed to the vessel or vessel equipment.
- Casualty or damage that results when the vehicle used for trailering the vessel fails.
- Casualties or damage that occur during accidents that only involve unmodified inner tubes.
- Casualties or damage that occur when the only vessels involved are being used solely for governmental, commercial or criminal activity.

| Table 3 - Non-Reportable Scenarios with their Casualty Count |  |  |  |  |
| :--- | ---: | ---: | ---: | ---: |
|  |  |  |  |  |
|  | \# Vessels |  |  |  |
| Non-Reportable Scenarios | 27 | 21 | $\$ 146,100$ | 2 |
| Casualty/Damage not attributed to vessel | Deaths | Injuries | Damages | Destroyed |
| Commercial | 18 | 146 | $\$ 1,223,291$ | 3 |
| Government | 0 | 6 | $\$ 59,400$ | 1 |
| Moored vessel maintenance issues | 0 | 0 | $\$ 226,760$ | 7 |
| Moored vessel encounters weather | 0 | 1 | $\$ 1,838,870$ | 9 |
| Craft not determined to be a "vessel" | 2 | 1 | $\$ 70$ | 1 |
| Vandalism/Criminal Activity/Malicious Intent | 0 | 1 | $\$ 8,301$ | 1 |
| Grand Total | 47 | 176 | $\$ 3,502,792$ | 24 |

## Use of Statistics

Following are some important points that users of these statistics need to be aware of:

1. An approved casualty reporting system does not include every accident involving a vessel that is being used for recreational purposes. Some accidents are not in the system because they are not required to be reported. Many accidents are not reported because boaters are not aware of the accident reporting regulations or fail to comply with such regulations.

In an attempt to make sure all fatal boating accidents are captured by the casualty reporting system and required data are input into the Boating Accident Report Database (BARD) System, the Coast Guard notifies and provides information from its Marine Information for Safety and Law Enforcement (MISLE) system to state Boating Law Administrators (BLAs) of fatal accidents that occurred in their state. The Coast Guard also sends news media stories to state BLAs on fatal and non-fatal boating accidents that occur in their state to capture accidents that may have been missed.
2. Federal regulations do not require the reporting of accidents on private waters where states have no jurisdiction. Reports of accidents on such waters are included in this report when received by the Coast Guard if they satisfy the other requirements for inclusion.
3. Non-fatal accidents cannot be assumed to have occurred in numbers proportional to the reported statistics because the act of reporting an accident is not a random sampling of accidents in the statistical sense. Rather, selection is based on the ability and willingness of those involved to file a report.
4. The fluctuations in non-fatal accident statistics from year to year may be caused by factors other than the change in the total number of recreational boating accidents. A small change in the low reporting rate may cause a relatively large change in the statistics.

The statistics in this publication are based on accident data submitted by reporting states as of March 3, 2009 with subsequent updates as information is reviewed and standardized. This publication covers only accidents meeting the aforementioned reporting requirements.

RECREATIONAL BOATING STATISTICS 2008

ACCIDENTCAUSES 8 CONDITIONS

## Explanation of Accident Causes and Conditions Section

The following seventeen tables and figures focus on the causes of accidents with a special focus on alcohol use, the operation and activity at the time of accident, weather and water conditions, vessel information, and the time of accidents.

## Percent of Accidents that are Fatal by Month (Table 4 \& Figure 1, Page 15)

This table provides information about total accidents, fatal accidents, non-fatal accidents, and deaths. The figure focuses on the percent of fatal accidents by month.

As a background note, fatal accidents are accidents that involve at least one death. For example, a fatal accident could be a capsizing that resulted in three deaths. It was an accident that had at least one death.

## Primary Contributing Factor of Accidents \& Casualties (Table 5, Page 16)

The "contributing factors" of an accident are the causes of the accident. In the Coast Guard's national accident reporting database, there are allowances for up to four causes. This table reflects the first cause listed for all accidents, deaths and injuries nationwide.

For the purposes of displaying information in a simplified manner, the Coast Guard divided the contributing factor categories into five larger categories: operation of vessel, loading of passengers or gear, environment, failure of vessel or vessel equipment, and miscellaneous. These five categories are situated in the leftmost column of the table and have the total number of accidents, deaths, and injuries associated with each category under the category name.

## Machinery \& Equipment Primary Contributing Factor of Accidents \& Casualties (Table 6, Page

 17)This table reflects the number of accidents, deaths, and injuries where machinery or equipment failure was listed as a first cause of the accident. The table also delineates the different types of failure that were listed.

## Primary Contributing Factor of Accidents (Figure 2, Page 18)

This figure reflects the first cause of accidents for all accidents nationwide.

## Primary Contributing Factor of Deaths (Figure 3, Page 19)

This table reflects the first cause listed for all deaths.
Primary Contributing Factor of Injuries (Figure 4, Page 20)
This table reflects the first cause listed for all injuries.
Number of Vessels in Accidents by Vessel Type \& Primary Contributing Factor (Table 7, Page 21) This table looks at the number of vessels involved in accidents by vessel type and the primary cause of the accident.

Alcohol Use as a Contributing Factor in Accidents \& Casualties by State 04-08 (Table 8, Page 22) This table reflects a tally of all four causes of accidents listed for all national accidents, deaths and injuries.

This table lists accidents where alcohol use by the vessel's occupants was listed as a direct or indirect cause of the accident. There are other cases in the national database where alcohol use is listed as being involved in the accident but it was not determined to be a cause of the accident.

## Vessel Operation at the Time of Accident (Table 9, Page 23)

This table focuses on the vessel and victim operation at the time of the accident. The table lists information about the number of vessels involved, the resulting number of deaths and the resulting number of
injuries.

## Vessel Activity at the Time of Accident (Table 10, Page 23)

This table examines the vessel and victim activity at the time of the accident. The table provides information about the number of vessels involved, the resulting number of deaths, and the resulting number of injuries. There are a lot of "other" and "unknowns" for activity because the choices available in the national database that have been used historically are limited. For example, there is not a category for "recreational cruising" on the BAR form which a lot of vessel operators were doing. However, the field was populated in the Coast Guard's database where it was indicated in the accident narrative that the vessel occupants were recreationally cruising.

## Weather \& Water Conditions (Table 11, Page 24)

This table documents some of the environmental characteristics of national accidents. It focuses on accidents, deaths and injuries by type of body of water, water conditions, wind level, visibility, and water temperature.

## Time Related Data (Table 12, Page 25)

These three sections independently examine time-related information for national accidents, deaths and injuries. The top section documents the number of accidents, deaths and injuries that occurred during a time frame. The middle section documents the number of accidents, deaths and injuries that occurred during a given month. Finally, the bottom section documents the number of accidents, deaths and injuries that occurred during a given day of the week.

These sections each examine the national data separately and should not be combined to draw conclusions. For instance, one cannot use them to deduce that the majority of accidents occur from 2:31 pm4:30 pm in July on the weekends. However, you could deduce that 2:31 pm-4:30 pm was the time frame that accidents occurred during calendar year 2008. Furthermore, the month with the highest number of accidents was July. Finally, the two days of the week with the greatest number of accidents were Saturday and Sunday.

## Vessel Information (Table 13, Page 26)

This table documents some of the characteristics of vessels involved in accidents nationwide. It provides information about the number of accidents, deaths and injuries by speed, horsepower, year built, length, and hull material.

## Rental Status of Vessels Involved in Accidents (Table 14, Page 27)

This table examines whether a vessel involved in an accident was rented. It also provides information on whether deaths and injuries occurred on rented vessels.

## Number \& Percentage of Deaths by Vessel Length (Figure 5 \& Table 15, Page 28)

This table focuses on the number of deaths by vessel length. Deaths are categorized into drownings and non-drownings. The table also provides a percentage of all deaths that were caused by drowning.


Table 4 - PERCENT OF ACCIDENTS THAT ARE FATAL BY MONTH 2008

| Month | Fatal <br> Accidents | Non-Fatal <br> Accidents | Total <br> Accidents | Accidents <br> Resulting in <br> Deaths | Total Deaths |
| :--- | :---: | :---: | :---: | :---: | :---: |
| January | 14 | 70 | 84 | $17 \%$ | 16 |
| February | 18 | 79 | 97 | $19 \%$ | 23 |
| March | 38 | 182 | 220 | $17 \%$ | 53 |
| April | 41 | 199 | 240 | $17 \%$ | 49 |
| May | 84 | 477 | 561 | $15 \%$ | 94 |
| June | 79 | 654 | 733 | $11 \%$ | 91 |
| July | 91 | 1045 | 1136 | $8 \%$ | 100 |
| August | 104 | 844 | 948 | $11 \%$ | 112 |
| September | 52 | 290 | 342 | $15 \%$ | 56 |
| October | 48 | 169 | 217 | $22 \%$ | 58 |
| November | 31 | 91 | 122 | $25 \%$ | 36 |
| December | 19 | 70 | 89 | $21 \%$ | 21 |
| Total | 619 | 4170 | 4789 | $13 \%$ | 709 |


|  | Table 5 - PRIMARY CONTRIBUTING FACTOR OF ACCIDENTS \& CASUALTIES 2008 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 1 |  | Accidents | Deaths | Injuries |
| Operation of Vessel2626 Accidents298 Deaths2081 Injuries | Alcohol Use | 276 | 124 | 246 |
|  | Careless/Reckless Operation | 492 | 32 | 390 |
|  | Drug Use | 5 | 2 | 7 |
|  | Excessive Speed | 282 | 29 | 268 |
|  | Failure to Ventilate | 21 | 2 | 29 |
|  | Lack of or Improper Boat Lights | 26 | 9 | 13 |
|  | No Proper Lookout | 430 | 24 | 331 |
|  | Operator Inattention | 488 | 28 | 329 |
|  | Operator Inexperience | 429 | 40 | 315 |
|  | Restricted Vision | 54 | 2 | 42 |
|  | Rules of the Road Infraction | 69 | 3 | 61 |
|  | Sharp Turn | 54 | 3 | 50 |
| Loading of Passengers or Gea <br> 535 Accidents <br> 119 Deaths <br> 418 Injuries | Improper Anchoring | 41 | 4 | 9 |
|  | Improper Loading/Weight Distribution | 27 | 14 | 16 |
|  | Overloading | 48 | 29 | 37 |
|  | Passenger/Skier Behavior | 383 | 57 | 335 |
|  | Standing/Sitting on Gunwales, Bow, Transom | 36 | 15 | 21 |
| ```Failure of Boat or Boat Equipment 430 Accidents 39 Deaths 160 Injuries``` | Equipment Failure | 78 | 6 | 28 |
|  | Hull Failure | 60 | 9 | 15 |
|  | Machinery Failure | 292 | 24 | 117 |
| Environment <br> 759 Accidents 124 Deaths 496 Injuries | Congested Waters | 53 | 0 | 31 |
|  | Dam/Lock | 17 | 7 | 16 |
|  | Force of Wave/Wake | 216 | 4 | 193 |
|  | Hazardous Waters | 211 | 59 | 125 |
|  | Weather | 262 | 54 | 131 |
| Miscellaneous <br> 439 Accidents <br> 129 Deaths <br> 176 Injuries | Ignition of Spilled Fuel or Vapor | 48 | 0 | 37 |
|  | Carbon Monoxide | 8 | 3 | 9 |
|  | Other | 180 | 33 | 80 |
|  | Unknown | 203 | 93 | 50 |
| All Categories Combined |  | 4789 | 709 | 3331 |


|  | Table 6 - MACHINERY \& EQUIPMENT PRIMARY CONTRIBUTING FACTOR OF ACCIDENTS \& CASUALTIES 2008 |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Machinery Failure |  | Accidents | Deaths | Injuries |
|  | Electrical System Failure | 38 | 0 | 11 |
|  | Engine Failure | 119 | 9 | 41 |
|  | Fuel System Failure | 32 | 2 | 14 |
|  | Shift Failure | 20 | 0 | 2 |
|  | Steering System Failure | 29 | 1 | 17 |
|  | Throttle Failure | 21 | 3 | 9 |
|  | Ventilation System Failure | 4 | 5 | 9 |
|  | Other | 18 | 2 | 10 |
|  | Not Specified | 11 | 2 | 4 |
| Equipment Failure | Auxiliary Equipment Failure | 13 | 0 | 3 |
|  | Fire Extinguisher Failure | 0 | 0 | 0 |
|  | Sail Dismasting | 4 | 0 | 2 |
|  | Seat Broke Loose | 7 | 5 | 2 |
|  | Other | 42 | 1 | 16 |
|  | Not specified | 12 | 0 | 5 |






Table 8 - ALCOHOL USE AS A CONTRIBUTING FACTOR IN ACCIDENTS \& CASUALTIES BY STATE 2004-2008
Accidents $\quad$ Deaths $\quad$ Injuries

|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2004 | 2005 | 2006 | 2007 | 2008 | 2004 | 2005 | 2006 | 2007 | 2008 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| USA | 331 | 402 | 403 | 421 | 387 | 124 | 157 | 148 | 157 | 153 | 388 | 493 | 366 | 373 | 346 |
| AL | 9 | 5 | 13 | 19 | 9 | 7 | 1 | 7 | 3 | 5 | 9 | 5 | 14 | 14 | 13 |
| AK | 4 | 9 | 6 | 8 | 7 | 4 | 5 | 5 | 7 | 6 | 0 | 5 | 11 | 4 | 3 |
| AZ | 15 | 16 | 10 | 13 | 11 | 2 | 0 | 1 | 3 | 1 | 18 | 15 | 12 | 21 | 8 |
| AR | 5 | 7 | 6 | 16 | 7 | 1 | 4 | 1 | 6 | 3 | 6 | 10 | 1 | 28 | 2 |
| CA | 25 | 34 | 26 | 34 | 36 | 12 | 13 | 7 | 11 | 15 | 49 | 28 | 24 | 38 | 38 |
| CO | 2 | 3 | 3 | 4 | 2 | 1 | 1 | 3 | 1 | 1 | 0 | 1 | 1 | 2 | 1 |
| CT | 1 | 4 | 1 | 5 | 6 | 0 | 1 | 0 | 3 | 4 | 0 | 2 | 0 | 4 | 9 |
| DE | 1 | 1 | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 |
| DC | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| FL | 36 | 47 | 28 | 38 | 34 | 13 | 17 | 11 | 20 | 14 | 122 | 185 | 21 | 19 | 34 |
| GA | 9 | 11 | 9 | 8 | 15 | 5 | 5 | 4 | 3 | 4 | 9 | 11 | 9 | 5 | 13 |
| HI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ID | 8 | 6 | 11 | 3 | 9 | 3 | 4 | 4 | 0 | 5 | 6 | 3 | 7 | 0 | 3 |
| IL | 13 | 9 | 13 | 14 | 6 | 11 | 4 | 7 | 2 | 2 | 4 | 14 | 14 | 11 | 5 |
| IN | 6 | 5 | 2 | 3 | 1 | 3 | 0 | 0 | 4 | 0 | 1 | 3 | 2 | 2 | 3 |
| IA | 6 | 6 | 10 | 12 | 4 | 1 | 3 | 3 | 5 | 0 | 4 | 4 | 10 | 4 | 1 |
| KS | 5 | 4 | 1 | 3 | 0 | 0 | 1 | 1 | 1 | 0 | 3 | 2 | 0 | 3 | 0 |
| KY | 3 | 9 | 10 | 10 | 2 | 1 | 8 | 5 | 6 | 1 | 2 | 6 | 9 | 9 | 2 |
| LA | 14 | 18 | 10 | 18 | 18 | 3 | 7 | 2 | 6 | 13 | 10 | 19 | 11 | 17 | 23 |
| ME | 1 | 1 | 0 | 7 | 3 | 1 | 1 | 0 | 5 | 3 | 0 | 0 | 0 | 3 | 0 |
| MD | 8 | 7 | 10 | 8 | 11 | 3 | 1 | 3 | 2 | 1 | 8 | 8 | 10 | 5 | 22 |
| MA | 4 | 5 | 1 | 6 | 2 | 1 | 4 | 1 | 3 | 1 | 7 | 6 | 0 | 1 | 1 |
| Ml | 1 | 11 | 13 | 5 | 7 | 0 | 6 | 0 | 4 | 3 | 0 | 12 | 19 | 2 | 2 |
| MN | 3 | 15 | 16 | 17 | 13 | 0 | 8 | 3 | 2 | 5 | 5 | 9 | 19 | 15 | 7 |
| MS | 3 | 3 | 4 | 4 | 3 | 1 | 0 | 2 | 1 | 0 | 3 | 6 | 5 | 6 | 2 |
| MO | 13 | 14 | 21 | 13 | 18 | 3 | 6 | 8 | 4 | 1 | 10 | 16 | 21 | 11 | 22 |
| MT | 3 | 1 | 3 | 3 | 9 | 3 | 1 | 1 | 0 | 4 | 1 | 0 | 2 | 4 | 5 |
| NE | 2 | 0 | 3 | 4 | 3 | 0 | 0 | 3 | 3 | 1 | 2 | 0 | 2 | 2 | 2 |
| NV | 6 | 7 | 6 | 2 | 11 | 0 | 2 | 2 | 0 | 4 | 6 | 11 | 4 | 2 | 2 |
| NH | 2 | 2 | 6 | 3 | 1 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 0 | 2 |
| NJ | 3 | 4 | 6 | 1 | 6 | 1 | 0 | 4 | 0 | 0 | 1 | 4 | 0 | 2 | 3 |
| NM | 1 | 2 | 1 | 2 | 1 | 0 | 2 | 0 | 1 | 0 | 1 | 0 | 1 | 4 | 1 |
| NY | 10 | 15 | 24 | 14 | 11 | 3 | 4 | 4 | 8 | 6 | 7 | 21 | 27 | 8 | 8 |
| NC | 17 | 15 | 16 | 19 | 19 | 5 | 3 | 5 | 4 | 5 | 20 | 6 | 13 | 24 | 19 |
| ND | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 2 |
| OH | 5 | 12 | 17 | 17 | 9 | 1 | 6 | 5 | 5 | 3 | 4 | 11 | 13 | 13 | 7 |
| OK | 2 | 3 | 4 | 7 | 1 | 2 | 1 | 2 | 3 | 1 | 1 | 1 | 6 | 14 | 0 |
| OR | 3 | 2 | 0 | 2 | 4 | 1 | 1 | 0 | 1 | 2 | 2 | 0 | 0 | 2 | 3 |
| PA | 1 | 6 | 8 | 4 | 10 | 1 | 6 | 11 | 2 | 1 | 0 | 4 | 4 | 4 | 11 |
| RI | 1 | 0 | 0 | 4 | 1 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 | 0 |
| SC | 4 | 9 | 4 | 5 | 9 | 1 | 3 | 1 | 0 | 4 | 3 | 5 | 2 | 10 | 9 |
| SD | 3 | 2 | 5 | 1 | 2 | 2 | 1 | 2 | 0 | 0 | 1 | 3 | 7 | 1 | 3 |
| TN | 15 | 7 | 13 | 12 | 17 | 7 | 3 | 5 | 3 | 7 | 11 | 3 | 11 | 8 | 16 |
| TX | 11 | 15 | 16 | 17 | 16 | 4 | 4 | 7 | 7 | 11 | 14 | 7 | 10 | 11 | 11 |
| UT | 2 | 5 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 6 | 0 | 0 | 0 |
| VT | 2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VA | 3 | 9 | 8 | 6 | 4 | 0 | 4 | 1 | 1 | 1 | 1 | 4 | 10 | 4 | 4 |
| WA | 21 | 19 | 23 | 13 | 9 | 7 | 8 | 9 | 10 | 6 | 15 | 13 | 18 | 7 | 10 |
| WV | 0 | 1 | 2 | 3 | 1 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 0 | 3 | 2 |
| WI | 16 | 12 | 9 | 10 | 16 | 6 | 4 | 4 | 4 | 7 | 15 | 15 | 11 | 18 | 11 |
| WY | 1 | 2 | 3 | 2 | 0 | 0 | 2 | 2 | 1 | 0 | 2 | 1 | 1 | 3 | 0 |
| GU | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PR | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| VI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CNMI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| AT | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PC | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Table 9 - VESSEL OPERATION AT THE TIME OF ACCIDENT 2008

| Vessels Involved | Deaths | Injuries |  |
| :--- | :---: | :---: | :---: |
| Totals | 6347 | 709 | 3331 |
| At Anchor | 238 | 36 | 71 |
| Being Towed | 38 | 2 | 13 |
| Changing Direction | 562 | 34 | 336 |
| Changing Speed | 717 | 46 | 441 |
| Cruising | 2525 | 203 | 1523 |
| Docking/Undocking | 278 | 12 | 77 |
| Drifting | 578 | 150 | 291 |
| Launching/Loading | 43 | 6 | 24 |
| Rowing/Paddling | 161 | 78 | 121 |
| Sailing | 72 | 8 | 29 |
| Tied to Dock/Moored | 455 | 4 | 54 |
| Towing | 92 | 3 | 65 |
| Other | 37 | 8 | 24 |
| Unknown | 551 | 119 | 262 |

Table 10 - VESSEL ACTIVITY AT THE TIME OF ACCIDENT 2008

|  | Vessels Involved | Deaths | Injuries |
| :--- | :---: | :---: | :---: |
| Totals | 6347 | 709 | 3331 |
| Commercial | 22 | 0 | 2 |
| Fishing | 573 | 210 | 298 |
| Fueling | 15 | 1 | 18 |
| Hunting | 35 | 18 | 27 |
| Racing | 48 | 8 | 12 |
| Recreational Cruising | 1377 | 104 | 737 |
| Repairs | 32 | 6 | 13 |
| Starting Engine | 59 | 4 | 35 |
| Swimming/Snorkeling | 38 | 14 | 29 |
| Towed Watersports | 535 | 16 | 500 |
| Towing | 11 | 0 | 2 |
| Whitewater | 42 | 22 | 24 |
| Other | 44 | 10 | 36 |
| None | 188 | 2 | 8 |
| Unknown | 3328 | 294 | 1590 |


| - $-\sqrt{1}$ |  | Accidents | Deaths | Injuries |
| :---: | :---: | :---: | :---: | :---: |
|  |  | 4789 | 709 | 3331 |
| TYPE OF BODY OF WATER | Lakes, Ponds, Reservoirs, Dams, Gravel Pits | 2267 | 334 | 1679 |
|  | Rivers, Streams, Creeks, Swamps, Bayous | 1087 | 225 | 787 |
|  | Bays, Inlets, Marinas, Sounds, Harbors, Channels, Canals, Sloughs | 973 | 94 | 608 |
|  | Ocean/Gulf | 348 | 40 | 180 |
|  | Great Lakes (not tributaries) | 112 | 15 | 76 |
|  | Unknown | 2 | 1 | 1 |
| WATER CONDITIONS | Calm (waves less than 6") | 2481 | 335 | 1762 |
|  | Choppy (waves 6" to 2') | 1368 | 155 | 997 |
|  | Rough (waves 2' to 6') | 450 | 77 | 246 |
|  | Strong Current | 156 | 56 | 84 |
|  | Very Rough (waves larger than 6') | 137 | 32 | 86 |
|  | Unknown | 197 | 54 | 156 |
| WIND | None | 480 | 78 | 337 |
|  | Light (0-6 mph) | 2343 | 298 | 1701 |
|  | Moderate ( $7-14 \mathrm{mph}$ ) | 1193 | 153 | 799 |
|  | Strong ( $15-25 \mathrm{mph}$ ) | 450 | 87 | 255 |
|  | Storm (over 25 mph ) | 85 | 23 | 42 |
|  | Unknown | 238 | 70 | 197 |
| VISIBILITY | Poor - Day | 54 | 11 | 40 |
|  | Poor - Night | 122 | 32 | 95 |
|  | Poor - Unknown if day or night | 3 | 1 | 1 |
|  | Fair - Day | 185 | 33 | 144 |
|  | Fair - Night | 132 | 42 | 97 |
|  | Fair - Unknown if day or night | 3 | 2 | 0 |
|  | Good - Day | 3446 | 420 | 2340 |
|  | Good - Night | 457 | 96 | 306 |
|  | Good- Unknown if day or night | 13 | 6 | 2 |
|  | Unknown - Day | 286 | 40 | 219 |
|  | Unknown - Night | 71 | 13 | 85 |
|  | Unknown - Unknown if day or night | 17 | 13 | 2 |
| WATER TEMPERATURE | 39 degrees F and below | 46 | 18 | 43 |
|  | 40-49 degrees F | 143 | 64 | 119 |
|  | 50-59 degrees F | 377 | 88 | 220 |
|  | 60-69 degrees F | 890 | 131 | 576 |
|  | 70-79 degrees F | 1463 | 150 | 1030 |
|  | 80-89 degrees $F$ | 979 | 113 | 725 |
|  | 90 degrees F and above | 27 | 7 | 15 |
|  | Unknown | 864 | 138 | 603 |


| (min $3^{2}$ | Table 12- TIME R | D DATA 20 |  |  |
| :---: | :---: | :---: | :---: | :---: |
| $78^{\circ} 0 \cdot 1^{2}$ |  | Accidents | Deaths | Injuries |
| $\square-5$ |  | 4789 | 709 | 3331 |
| , | Midnight to 2:30 am | 107 | 34 | 94 |
| $\cdots$ | 2:31 am to 4:30 am | 48 | 11 | 40 |
|  | 4:31 am to 6:30 am | 81 | 17 | 57 |
|  | 6:31 am to 8:30 am | 111 | 24 | 61 |
|  | 8:31 am to 10:30 am | 272 | 60 | 149 |
|  | 10:31 am 12:30 pm | 535 | 68 | 373 |
| Time of Day | 12:31 pm to $2: 30 \mathrm{pm}$ | 819 | 94 | 592 |
|  | 2:31 pm to 4:30 pm | 1001 | 104 | 690 |
|  | 4:31 pm to $6: 30 \mathrm{pm}$ | 909 | 112 | 684 |
|  | 6:31 pm to 8:30 pm | 485 | 77 | 312 |
|  | 8:31 pm to $10: 30 \mathrm{pm}$ | 226 | 36 | 177 |
|  | 10:31 pm to Midnight | 113 | 29 | 77 |
|  | Unknown | 82 | 43 | 25 |
|  | January | 84 | 16 | 53 |
|  | February | 97 | 23 | 45 |
|  | March | 220 | 53 | 145 |
|  | April | 240 | 49 | 162 |
|  | May | 561 | 94 | 413 |
| Month of Year | June | 733 | 91 | 492 |
| Month of Year | July | 1136 | 100 | 857 |
|  | August | 948 | 112 | 688 |
|  | September | 342 | 56 | 246 |
|  | October | 217 | 58 | 132 |
|  | November | 122 | 36 | 51 |
|  | December | 89 | 21 | 47 |
|  | Sunday | 1237 | 160 | 900 |
|  | Monday | 421 | 67 | 275 |
|  | Tuesday | 338 | 50 | 260 |
| Day of Week | Wednesday | 330 | 54 | 209 |
|  | Thursday | 371 | 75 | 222 |
|  | Friday | 651 | 95 | 455 |
|  | Saturday | 1441 | 208 | 1010 |




Figure 5 NUMBER OF DEATHS BY VESSEL LENGTH 2008


| Table 15 - NUMBER \& PERCENTAGE OF DEATHS BY VESSEL LENGTH |  |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
| Length | Drownings | Deaths by Causes <br> other than Drowning | Total Deaths | Percent of Deaths <br> from Drowning |
| $<16^{\prime}$ | 236 | 56 | 292 | $81 \%$ |
| $16-<26^{\prime}$ | 185 | 96 | 281 | $66 \%$ |
| $26-<40^{\prime}$ | 29 | 30 | 59 | $49 \%$ |
| $40-<65^{\prime}$ | 5 | 4 | 9 | $56 \%$ |
| $>65^{\prime}$ | 0 | 1 | 1 | $0 \%$ |
| Unknown | 55 | 12 | 67 | $82 \%$ |
| Total | 510 | 199 | 709 | $72 \%$ |

RECREATIONAL BOATING STATISTICS 2008

ACCIDENT
TYPES

Responsibly

## Explanation of Accident Types Section

The following section contains seven tables that examine data related to the events, called accident types, in accidents. The tables focus on these events and break down information by state, vessel type, vessel length, engine type, and propulsion.

In the Coast Guard's national database, there are four fields that can be used to define the series of events in an accident. By events, we mean the series of occurrences that passed during an accident. If a wave broke over a vessel causing it to take on water, capsize, and eject its occupant, the Coast Guard would categorize this accident by three events. First, there was a flooding/swamping. Then, there was a capsizing. Third, there was an "ejected from vessel."

With the exception of one table, the tables and figures in this report focus only on the first event in the sequence. The rational for providing only the first accident type is to keep the tables simplistic; if we had added the second, third, and fourth events in the boating sequence, our accident, casualty, and damage totals would not match up because they would be double-counting the accidents, casualties, and damages for cases that had more than one event.

## Accident, Vessel \& Casualty Numbers by Accident Type (Table 16, Page 32)

This table focuses on the first event in a boating accident and provides information on the number of accidents, vessels, and casualties attributed to that first event. The deaths section is also separated by the categories drownings and non-drownings.

## Five-year Summary of Accident Types (Table 17, Page 33-35)

These five tables provide the number of accidents, deaths, injuries, and property damage by accident type and by year.

## Frequency of Accident Types in Accidents \& Casualties Nationwide (Table 18, Page 36)

As mentioned in the introductory paragraph, there are four fields that can be used to define the series of events in an accident. This table focuses on the first three events in an accident and the number of casualties associated with each event. The Coast Guard leaves out the fourth because it is not a standardized field.

Using the example in the opening paragraphs, the flooding/swamping would fall under the intersection of the column "Primary Accident Type" and the row "Flooding/swamping". The capsizing would be marked under the column "Secondary Accident Type" and the row "Capsizing". Finally, the ejection would be marked under the column "Tertiary Accident Type" and the row "Ejected from Vessel".

This table focuses on the frequency that these events occurred nationally and the total number of deaths that were associated with each accident type. If we turn back to our example and focus on flooding/ swamping, we see that there were 475 accidents where flooding/swamping was the first event in the boating accident. There were 89 deaths associated with this first event type. However, there were other accidents that involved a flooding/swamping as a second or third occurrence. There were 12 deaths associated with flooding/swamping as a second event and 8 deaths associated with flooding/swamping as a third event. All combined, you get the last column of the table that looks at how many deaths were associated with an event that occurred either as the first, second, or third occurrence in an accident. In the example, there were 109 deaths associated with flooding/swamping as a first, second, or third event.

This table can be difficult to understand, especially when the reader is under the expectation that the tallies of the final columns will equal the numbers published at the front of this report that reference the number of reportable accidents and deaths.

Number of Vessels in Accidents by Vessel Length \& Primary Accident Type (Table 19, Page 37) This table displays the types of accidents by the length of vessel. The table lists vessel length by foot for vessels of lengths $4 \mathrm{ft}-39 \mathrm{ft}$. After 39 ft , information is categorized in ranges. This table also provides
information about the number of casualties and vessels associated by length of vessel.
Number of Vessels in Accidents by Vessel Type \& Primary Accident Type (Table 20, Page 38) This table examines the first event of a boating accident for all vessels involved in an accident. It also provides information about the casualties associated with each vessel type.

Number of Vessels in Accidents by Primary Accident Type \& Propulsion Type (Table 21, Page 39) This table provides information about the number of vessels involved in accidents by primary accident type, propulsion, and engine type.

Number of Vessels in Accidents by Primary Accident Type \& Engine Type (Table 22, Page 39) This table provides information about the number of casualties and vessels associated by propulsion, engine and primary accident type.

|  | $\left.\begin{aligned} & \bar{ल} \\ & \underset{\sim}{m} \end{aligned} \right\rvert\,$ | $\underset{N}{N}$ | O | ～～M | ） | $\stackrel{\circ}{\circ} \mathrm{O}$ | $7{ }_{-}^{\circ}$ | 0 |  |  | N |  | 가 | $\bigcirc$ |  | － | －¢ | 年 | 8 | $\bigcirc$ | $\underset{7}{7}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 욧 | $\underset{\sim}{\infty}$ | － 7 | ก็ | $\sim 8$ | 8 ल | ल | $\bigcirc$ | $\sim$ | $\rightarrow$ | － | $\rightarrow$－ | $\sim \sim$ | N | $\stackrel{-1}{ }$ | $\sim$ | 9 | $\sim$ | ค | $\bigcirc$ | の |
|  | $\stackrel{8}{\square}$ | $\stackrel{\sim}{\sim}$ | － 7 | O－ | $\rightarrow$－ | \％ 0 | $0 \cdot$ | － 0 | $\rightarrow$ | $\rightarrow$ | ल | $\rightarrow-$ | －10 | 00 | $\bigcirc$ | $\sim$ | $\checkmark$ | N | ค | － | $\llcorner$ |
|  | 은 | $\stackrel{0}{1}$ | $\bigcirc$ | $\stackrel{\sim}{\sim}+$ | － 7 | न－ | ल | －10 | － |  | ñ | －－ | $\rightarrow \sim$ | N | m | mo | $\bigcirc$ | 0 | － | － | $\checkmark$ |
|  | $\hat{\underset{\sim}{0}} \mid$ |  | $\bigcirc$ | $\bigcirc$ | UN | $\begin{array}{\|c\|c} \hat{N} \\ \underset{N}{N} & 0 \\ \hline-1 \end{array}$ | $\bigcirc$ | O20 | $\underset{\sim}{\text { ¢ }}$ |  | $\hat{y}$ | ～ | ¢ | $\pm \stackrel{\text { ¢ }}{\substack{\text { }}}$ | － | 0 | － | ก1 | $\varnothing$ | $\stackrel{\text { ¢ }}{\substack{0 \\ \hline}}$ | $\underset{7}{7}$ |
|  | $\left\lvert\, \begin{aligned} & \ddot{\infty} \\ & \underset{寸}{*} \end{aligned}\right.$ | $\left\lvert\, \begin{gathered} \infty \\ \mathbf{m} \end{gathered}\right.$ | $\begin{aligned} & \substack{n \\ \\ \hline\\ )} \\ & \hline \end{aligned}$ | $\underset{y}{c}$ | $8$ | $\underset{\sim}{\underset{\sim}{N}}$ | $\stackrel{\sim}{\infty} \mid \underset{\sim}{\sim}$ | $\underset{7}{\underset{7}{2}}$ |  | $\bigcirc$ | $\stackrel{\text { ¢ }}{\substack{\text { cos }}}$ | $\stackrel{\sim}{\sim}$ | $\stackrel{\infty}{\sim}$ | $\stackrel{\sim}{\sim}$ | N | ${ }_{0}$ | ¢ | ल | $\infty$ | $\stackrel{\text { 寺 }}{\sim}$ | $\underset{\sim}{\sim}$ |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | $\begin{aligned} & \stackrel{\rightharpoonup}{\mathrm{D}} \\ & \stackrel{1}{\mathrm{O}} \end{aligned}$ |


| Table 17 $\boldsymbol{-}$ FIVE YEAR SUMMARY OF BOATING ACCIDENT TYPES |  |
| :--- | :--- | ---: | ---: | ---: | ---: |






|  | Injuries | $\begin{array}{\|c} \underset{\sim}{\mathrm{m}} \\ \hline \end{array}$ | $\stackrel{\sim}{\sim}$ | ～ | $\underset{\sim}{\mathrm{N}}$ | O | $\stackrel{\square}{-}$ | $\checkmark$ | ल | － | Bo | N | $\stackrel{\sim}{\sim}$ | $\stackrel{\infty}{+}$ | $\stackrel{\ominus}{\sim}$ | $\checkmark$ | $\bigcirc$ | $\stackrel{1}{0}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total Deaths |  | $\sim$ | $\stackrel{\sim}{\sim}$ | 18 | $\bigcirc$ | $\bigcirc$ | $\infty$ | － | N | $\stackrel{\square}{\square}$ | $\stackrel{ }{-}$ | $\underset{7}{7}$ | フৃ | の | $\checkmark$ | $\stackrel{\sim}{\sim}$ | $\bigcirc$ |
|  | Deaths by Causes other than Drowning | ন্ন | $\bigcirc$ | 人 | N | 악 | $\bigcirc$ | $\bigcirc$ | $\checkmark$ | － | $\stackrel{\sim}{\sim}$ | N | N | $\checkmark$ | － | － | m | － |
|  | Drownings | $\begin{aligned} & \text { O } \\ & \hline 1 \\ & \hline \end{aligned}$ | N | ， | N | ㅇ | $\bigcirc$ | $\infty$ | ¢ | $\stackrel{\mathrm{N}}{\mathrm{~N}}$ | $\stackrel{ }{\text { N }}$ | $\stackrel{\square}{\square}$ | N | M | の | $\square$ | $\stackrel{\sim}{\square}$ | م |
|  | Unknown | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\sim$ | － | $\bigcirc$ | $\bigcirc$ | $\checkmark$ | $\cdots$ | $\bigcirc$ | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Other | $\mid \vec{~}$ | O | － | 19 | $\checkmark$ | $\bigcirc$ | $\bigcirc$ | $\checkmark$ | N | $\xrightarrow{7}$ | $\infty$ | $\sim$ | － | $\bigcirc$ | 0 | － | m |
|  | Struck Submerged Object | $\stackrel{\underset{\sim}{\mathrm{N}}}{ }$ | N | － | N | $\sim$ | N | $\bigcirc$ | $\bigcirc$ | ${ }_{\circ}^{\circ}$ | $\llcorner$ | $\sim$ | $\checkmark$ | $\sim$ | $\checkmark$ | $\bigcirc$ | $\bigcirc$ | m |
|  | Struck by Propeller | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\xrightarrow{-1}$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | ${ }_{0}$ | $\sim$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | m |
|  | Struck by Vessel | $\stackrel{-1}{1}$ | $\bigcirc$ | 0 | － | － | O | － | － | － | $\stackrel{\sim}{\sim}$ | m | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\neg$ |
|  | Skier Mishap | o্ল | O | 0 | $\stackrel{\infty}{-1}$ | － | － | － | $\checkmark$ | $$ | ¢ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | － | $\bigcirc$ | $\bigcirc$ | － |
|  | Sinking | $\stackrel{-1}{9}$ | $\checkmark$ | 10 | ก | － | O | 0 | $\bigcirc$ | $\infty$ | $\bigcirc$ | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Grounding | $\left\lvert\, \begin{aligned} & \text { O} \\ & \hline \end{aligned}\right.$ | $\bigcirc$ | N | O | － | $\bigcirc$ | － | － | $\left\|\begin{array}{c} 0 \\ \underset{\sim}{2} \end{array}\right\|$ | N | $\infty$ | $\bigcirc$ | $\checkmark$ | $\infty$ | 0 | $\checkmark$ | $\bigcirc$ |
|  | Flooding／Swamping | $\hat{\sigma} \mid$ | 10 | $\stackrel{\text {－}}{\text {－}}$ | $\bigcirc$ | $\stackrel{\text { J }}{ }$ | $\checkmark$ | $N$ | $\sim$ | $v \underset{\sim}{\mathrm{~m}}$ | $\checkmark$ | N | O | $\cdots$ | $\checkmark$ | $\checkmark$ | $\cdots$ | $\infty$ |
|  | Fire／Explosion（unknown origin） | $\stackrel{\sim}{\sim}$ | $\bigcirc$ | $\neg$ | $\stackrel{\infty}{-1}$ | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | N | $\rightarrow$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\sim$ |
|  | Fire／Explosion（Non－fuel） | $\bigcirc$ | $\bigcirc$ | ம | \％ | $\bigcirc$ | m | $\bigcirc$ | － | $\cdots$ | $\checkmark$ | $\checkmark$ | O | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\sim$ |
| $\stackrel{\infty}{2} 亡$ | Fire／Explosion（Fuel） | $\left\lvert\, \begin{gathered} \text { O} \\ \underset{C}{2} \end{gathered}\right.$ | O | 人 | － | － | $\stackrel{\square}{7}$ | － | $\bigcirc$ | N | $\overrightarrow{7}$ | $m$ | 0 | － | $\cdots$ | 0 | N | ค |
| $\begin{aligned} & \text { ய } \\ & \text { ( } \\ & \hline \end{aligned}$ | Falls Overboard | $\underset{寸}{ }$ | O | $\infty$ | － | $\stackrel{0}{\circ}$ | － | $\bigcirc$ | $\bigcirc$ | O | $\underset{\substack{0 \\ \hline}}{2}$ | $\cdots$ | $\underset{\sim}{\text { N }}$ | $\cdots$ | － | O | $\checkmark$ | $\checkmark$ |
| $\begin{aligned} & U F \\ & Z \frac{1}{4} \end{aligned}$ | Fall on Vessel | $\bigcirc$ | $\bigcirc$ | 0 | $\infty$ | 0 | 0 | 0 | － | $\stackrel{\text { N }}{ }$ | N | $\bigcirc$ | 0 | － | － | $\bigcirc$ | $\bigcirc$ | $\sim$ |
| ভ ๑ | Fall in Vessel | $\underset{\sim}{\mathrm{I}}$ | $\checkmark$ | $\checkmark$ | $\stackrel{M}{-}$ | 0 | $\checkmark$ | － | － | の | N | $m$ | $\sim$ | － | N | － | $\checkmark$ | $\sim$ |
| Шய | Electrocution | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | 0 | － | $\bigcirc$ | － | － | 0 | $\bigcirc$ | － | $\bigcirc$ | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| $\underset{\sim}{0}$ | Ejected from Vessel | $\left\lvert\, \begin{aligned} & \stackrel{n}{7} \\ & \hline \end{aligned}\right.$ | $\checkmark$ | $\rightarrow$ | 10 | － | $\bigcirc$ | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\checkmark$ | 0 | － | － | $\bigcirc$ | － | $-$ |
|  | Departed Vessel | $\left\|\begin{array}{l} 0 \\ \hline-1 \end{array}\right\|$ | 0 | $\sim$ | $\cdots$ | － | $\bigcirc$ | $\checkmark$ | － | $\bigcirc$ | N | 7 | $-$ | O | － | $\bigcirc$ | N | $\sim$ |
|  | Collision with Vessel | $\underset{\sim}{N}$ | $\sim$ | $\stackrel{\rightharpoonup}{~} \underset{-}{J}$ | $\underset{-1}{f}$ | $\sim$ | $\sim$ | $\bigcirc$ | N | $\stackrel{\circ}{\circ}$ | N | $\stackrel{1}{7}$ | m | $\bigcirc$ | $\stackrel{\rightharpoonup}{7}$ | $\checkmark$ | N | $\stackrel{\sim}{\sim}$ |
|  | Collision with Floating Object | ¢ | $\bigcirc$ | 0 | の | － | 0 | － | $\bigcirc$ | － | の | m | － | N | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
| $\begin{aligned} & \mathbf{0} \\ & \text { N } \\ & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ | Collision with Fixed Object | \|ros | O | $\sim_{N}^{\infty}$ | $\bigcirc$ | $\cdots$ | $\bigcirc$ | $\bigcirc$ | $\checkmark$ | N্শ্র | 8 | － | N | N | $\neg$ | 0 | $\cdots$ | $\stackrel{\infty}{-1}$ |
|  | Carbon Monoxide Exposure | $\stackrel{7}{7}$ | $\bigcirc$ | 0 | 악 | 0 | $m$ | $\bigcirc$ | 0 | $\bigcirc$ | $\bigcirc$ | － | 0 | － | － | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ |
|  | Capsizing | \|on | m | ம | の | $\infty$ | $N$ | $\sim$ | $\bigcirc$ | － | $\bigcirc$ | N | $\infty$ | $\stackrel{\infty}{\sim}$ | N | 0 | $\bigcirc$ | 악 |
|  | All Accident Types | $$ | m | $\stackrel{\infty}{\sim}$ | No | $\begin{aligned} & \infty \\ & \hline \end{aligned}$ | $\bigcirc$ | N | ก | － | － | N | へ | ন | $\bigcirc$ | $\sim$ | 0 | － |
|  |  | 噡 | － |  |  |  |  | $\begin{aligned} & \frac{0}{0} \\ & \underline{0} \\ & \underline{0} \\ & \frac{0}{0} \\ & \underline{I} \end{aligned}$ |  |  |  | O | － | \％ | C |  | $\left\{\begin{array}{l} \bar{\omega} \\ \frac{1}{7} \\ \hline \end{array}\right.$ | （ |



|  | Injuries | ¢ |  | N | N | ¢ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Total Deaths | $\stackrel{-}{7}$ | $\square$ | - | $\bigcirc$ | $\stackrel{-}{\circ}$ |
|  | Other Deaths | N | $\checkmark$ | $\bigcirc$ | O | - |
|  | Drownings | $\stackrel{9}{-}$ | + |  | $\stackrel{\sim}{\sim}$ | $\stackrel{\sim}{\sim}$ |
|  | Unknown | 0 | $\checkmark$ | N |  | $\bigcirc$ |
|  | Other | 0 | N | $\bigcirc$ | - | - |
|  | Struck Submerged Object | $\bigcirc$ | $\stackrel{\sim}{\sim}$ | ก | ¢ | $\bigcirc$ |
|  | Struck by Propeller | 0 | 사 | $\stackrel{\sim}{-1}$ | - | - |
|  | Struck by Vessel | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | $\bigcirc$ | - |
| U | Skier Mishap | 0 | $\stackrel{N}{\lambda}$ | is | $\stackrel{+}{7}$ | - |
|  | Sinking | 0 | ल | م | ल | 0 |
|  | Grounding | $\bigcirc$ | $\stackrel{N}{\sim}$ | 8 | $\infty$ | $\sim^{\wedge}$ |
|  | Flooding/ Swamping | $\sim$ | 8 | $0$ | $\bigcirc$ | $\stackrel{\square}{\square}$ |
|  | Fire or Explosion (unknown origin) | $\bigcirc$ | $\stackrel{-}{-1}$ | 0 | $\infty$ | 0 |
|  | Fire or Explosion (Other) | 0 | ल | - | $\stackrel{\bigcirc}{\sim}$ | - |
|  | Fire or Explosion (Fuel) | $\bigcirc$ | \% | N | $\bigcirc$ | 0 |
|  | Falls Overboard | $\checkmark$ | $\stackrel{\sim}{N}$ | $\stackrel{\rightharpoonup}{\infty}$ | N | $\sim^{\sim}$ |
| $\frac{\leq}{\infty}$ | Fall on Vessel | $\bigcirc$ | $\stackrel{-}{-}$ | -1-1 | $\infty$ | 0 |
|  | Fall in Vessel | 0 | N | - | - | ${ }^{\sim}$ |
|  | Electrocution | $\bigcirc$ | 0 | - | 0 | - |
|  | Ejected from Vessel | $\bigcirc$ | $\bigcirc$ | \% | $\cdots$ | $\cdots$ |
| ا | Departed Vessel | $\bigcirc$ | $\stackrel{-}{\mathrm{H}}$ | - | - | ${ }_{\sim}{ }^{-}$ |
|  | Collision with Vessel | $\bigcirc$ | $\underset{\sim}{\sim}$ | $\underset{y}{3}$ | N | $\underset{\sim}{\text { - }}$ |
|  | Collision with Floating Object | $\bigcirc$ | $\llcorner$ | N | - | O |
|  | Collision with Fixed Object | 0 | $\infty$ | $\stackrel{\sim}{\sim}$ | ন | $\cdots$ |
|  | Carbon Monoxide | $\bigcirc$ | $\stackrel{-}{7}$ | $1{ }^{1}$ | $\Omega$ | $\cdots$ |
|  | Capsizing | $\cdots$ | $\bigcirc$ | $\xrightarrow{7}$ | $\infty$ | $\bigcirc$ |
|  | Total Vessels Involved | $\bigcirc$ | $\begin{aligned} & \infty \\ & \underset{\sim}{0} \end{aligned}$ | - | - |  |
|  |  | 交 | 응 <br> 은 <br> 은 <br> ㄹ <br> U |  |  |  |

RECREATIONAL BOATING STATISTICS 2008

# OPERATOR 8 PASSENGER INFORMATION 

## Explanation of Operator/Passenger Information Section

The following section contains eight tables and figures that examine data relating to the operators and passengers in accidents. Information is displayed by age, boating safety instruction, type of injury, and cause of death.

## Operator Information (Table 23, Page 42)

This table provides information about the operator. Information covers a variety of topics including age, boating operation hours experience, number of people onboard the vessel, and the boating safety instruction level of the operator.

## Life Jacket Availability on Vessels \& Use by Cause of Death (Table 24, Page 43)

This table examines the availability and accessibility of life jackets on vessels. It also provides information regarding the use of life jackets by deceased victims.

Number of Deaths by Type of Operator Boating Instruction (Table 25 \& Figure 6, Page 44)
This table and accompanying figure focus on boating safety instruction for those operators who had one person die on their vessel. The table and figure both focus on instruction provided by the U.S. Coast Guard Auxiliary, U.S. Power Squadrons, American Red Cross, and State sources. The figure examines only deaths where the operator instruction was known.

## Number of Deaths by Vessel Type (Table 26 \& Figure 7, Page 45)

This table documents the cause of death by vessel type and life jacket wear. It also provides the total number of deaths by type of vessel.

## Number of Injured Victims by Age \& Vessel Type (Table 27, Page 46)

This table documents the age of injured victims by vessel type.
Number of Deceased Victims by Age \& Vessel Type (Table 28, Page 47)
This table documents the age of fatal victims by vessel type. It also delineates the number of drownings, non-drownings, and total deaths by age.

| Table 2 | 3 • OPERATOR INF | RMATIO | N 2008 |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Vessels |  |  |
|  |  | Involved | Deaths | Injuries |
|  |  | 6347 | 709 | 3331 |
| Age of Operator | 12 years and under | 31 | 1 | 22 |
|  | 13 to 18 years | 395 | 26 | 235 |
|  | 19 to 25 years | 680 | 76 | 428 |
|  | 26 to 35 years | 816 | 67 | 540 |
|  | 36 to 55 years | 1823 | 239 | 1112 |
|  | Over 55 years | 692 | 148 | 326 |
|  | Unknown | 1910 | 152 | 668 |
| Operator's Experience | None | 48 | 7 | 27 |
|  | Under 10 hours | 465 | 36 | 249 |
|  | 10 to 100 hours | 1101 | 78 | 619 |
|  | 101 to 500 hours | 1887 | 155 | 1041 |
|  | Over 500 Hours | 656 | 64 | 357 |
|  | Unknown | 2190 | 369 | 1038 |
| Number of Persons on Board | None | 311 | 3 | 33 |
|  | One | 1660 | 177 | 668 |
|  | Two | 1604 | 244 | 891 |
|  | Three | 705 | 98 | 474 |
|  | Four | 509 | 54 | 378 |
|  | Five | 316 | 23 | 233 |
|  | Six | 258 | 28 | 203 |
|  | Seven | 128 | 4 | 83 |
|  | Eight | 80 | 7 | 61 |
|  | Nine | 64 | 4 | 72 |
|  | Ten | 38 | 7 | 29 |
|  | More than 10 | 46 | 2 | 23 |
|  | Unknown | 628 | 58 | 183 |
| Education of Operator | Informal | 270 | 16 | 177 |
|  | American Red Cross | 29 | 0 | 10 |
|  | State Course | 597 | 28 | 355 |
|  | US Power Squadrons | 106 | 4 | 55 |
|  | USCG Auxiliary | 314 | 6 | 166 |
|  | Other | 330 | 20 | 183 |
|  | None | 2740 | 277 | 1582 |
|  | Unknown | 1961 | 358 | 803 |


| Life Jackets on Vessels |  | Vessels Involved | $\begin{gathered} \hline \text { Deaths } \\ 405 \end{gathered}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Approved, Accessible | 4548 |  |  |
|  | Approved, Not Accessible | 86 |  | 21 |
|  | Approved, Not known if accessible | 469 |  | 40 |
|  | Not Onboard | 223 |  | 31 |
|  | Unknown | 1021 | 112 |  |
| Life Jacket Usage Among Cause of Death Categories | Cause of Death | Worn | Not Worn | Unknown if Worn |
|  | Carbon Monoxide | 0 | 11 | 0 |
|  | Cardiac arrest | 1 | 6 | 0 |
|  | Drowning | 46 | 459 | 5 |
|  | Hypothermia | 7 | 5 | 0 |
|  | Trauma | 33 | 90 | 1 |
|  | Other | 1 | 7 | 0 |
|  | Unknown | 2 | 32 | 3 |
|  | Totals | 90 | 610 | 9 |

## BOATING SAFETY INSTRUCTION

|  |  |
| :---: | :---: |
| 10 Type of Boating Instruction | Deaths |
| American Red Cross | 0 |
| U.S. Power Squadron | 4 |
| U.S. Coast Guard Auxiliary | 6 |
| Informal | 16 |
| State | 28 |
| Other | 20 |
| None | 277 |
| Total Deaths - Known Operator Instruction | 351 |
| Total Deaths - Unknown Operator Instruction | 358 |
| Total Deaths - Known \& Unknown Operator Instruction | 709 |

Figure 6 PERCENT OF DEATHS BY KNOWN OPERATOR INSTRUCTION 2008




| Age of Injured Victim |  |  |  |  | $\begin{aligned} & 0 \\ & 00 \\ & 00 \end{aligned}$ | $\begin{array}{\|l\|} \hline \frac{1}{O} \\ \stackrel{0}{0} \\ 0 \\ 0 \\ 0 \\ 0 \end{array}$ | $\begin{gathered} \overline{\underline{⿳ 亠 二 口 刂 土}} \\ \stackrel{\rightharpoonup}{\tilde{W}} \\ \overline{\bar{\sigma}} \\ \hline \end{gathered}$ |  | 0 <br> 0 <br> 0 <br> 0 <br> 2 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 <br> 0 | $\sum_{0}^{0}$ | 0 0 0 0 0 0 0 0 | $\begin{aligned} & \text { Ton } \\ & \text { \# } \end{aligned}$ |  |  |  | $\begin{aligned} & \text { 움 } \\ & \overrightarrow{\overrightarrow{0}} \end{aligned}$ | Z <br> O <br> d <br> D <br> O <br> O <br> D |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Total | 3331 | 25 | 42 | 296 | 96 | 16 | 14 | 33 | 1669 | 920 | 72 | 25 | 48 | 26 | 4 | 10 | 35 |
| 0 | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1 | 6 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 2 | 6 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | 10 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 5 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 4 | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 | 17 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 11 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 19 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 7 | 4 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 7 | 8 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 17 | 0 | 0 | 0 | 1 | 0 | 1 | 1 | 10 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9 | 20 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 9 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 33 | 0 | 0 | 4 | 1 | 0 | 1 | 0 | 17 | 9 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 11 | 30 | 0 | 0 | 2 | 1 | 0 | 2 | 0 | 16 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 44 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 31 | 7 | 2 | 0 | 0 | 3 | 0 | 0 | 0 |
| 0－12 | 224 | 1 | 0 | 17 | 9 | 1 | 4 | 1 | 128 | 47 | 9 | 0 | 1 | 6 | 0 | 0 | 0 |
| 13－19 | 445 | 3 | 0 | 8 | 15 | 1 | 0 | 1 | 190 | 208 | 7 | 3 | 3 | 2 | 0 | 1 | 3 |
| 20－29 | 579 | 1 | 1 | 26 | 12 | 1 | 1 | 6 | 282 | 220 | 12 | 2 | 4 | 1 | 0 | 2 | 8 |
| 30－39 | 439 | 2 | 4 | 53 | 9 | 1 | 2 | 6 | 221 | 124 | 8 | 2 | 3 | 4 | 0 | 0 | 0 |
| 40－49 | 421 | 9 | 3 | 65 | 11 | 2 | 1 | 1 | 208 | 100 | 11 | 5 | 1 | 1 | 0 | 1 | 2 |
| 50－59 | 287 | 3 | 4 | 38 | 12 | 5 | 1 | 7 | 166 | 34 | 8 | 1 | 5 | 1 | 1 | 1 | 0 |
| 60－69 | 122 | 3 | 6 | 13 | 3 | 1 | 2 | 1 | 74 | 11 | 0 | 0 | 4 | 2 | 0 | 1 | 1 |
| 70－79 | 53 | 0 | 3 | 9 | 1 | 2 | 0 | 0 | 31 | 3 | 0 | 0 | 1 | 1 | 0 | 2 | 0 |
| 80 and Over | 10 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unknown | 751 | 3 | 21 | 65 | 24 | 2 | 3 | 10 | 361 | 173 | 17 | 12 | 26 | 8 | 3 | 2 | 21 |

Table 28 - NUMBER OF DECEASED VICTIMS BY AGE AND VESSEL TYPE
2008


RECREATIONAL BOATING STATISTICS 2008

CASUALTY DATA Responsibly

## Explanation of Casualty Data Section

This section contains eleven tables and figures that examine data relating to the victims in boating accidents. The following pages focus on historical casualty information, casualty-vessel information, and state-specific casualty information.

Accidents \& Casualties by Year, 1996-2008 (Figure 8 \& Table 29, Page 50)
This figure and table document the number of accidents and casualties from 1996-2008.

## Accident, Casualty \& Damage Data by State (Table 30, Page 51)

This table provides accident, casualty, and damage information by state for the year 2008. Accidents are broken down into three levels of severity- fatal accidents, non-fatal injury accidents, and property damage only accidents. This table also provides the number of casualties and property damage by state.

## Distribution of Recreational Boating Deaths by State (Figure 9, Page 52)

This figure provides the percentage that each state contributed to the national death count. So, for instance, Texas had 61 deaths. Out of the total national death count of 709 , Texas contributed $8.6 \%$ ((61/709) * 100) of deaths to the national count.

Annual Recreational Boating Fatality Rates 1996-2008 (Figure 10 \& Table 31, Page 53)
This table provides the fatality rates from 1996-2008. The fatality rate is calculated by dividing the number of fatalities by the total national vessel registration. The Coast Guard then multiplied by a factor of 100,000 to arrive at the number of deaths per 100,000 registered vessels. The accompanying figure shows the trend of fatality rates from 1996-2008.

## States Coded by their 2008 Fatality Rate (Figure 11, Page 54)

This figure displays states that are color-coded depending on their fatality rate which is expressed as the number of deaths that occurred in that state per 100,000 vessels that that state registered. It is important to note that not all states register the same types of vessels which could skew the fatality rates provided. Please see Table 38, Recreational Registration Data by State 2007-2008 to view the Scope of each state's registration system.

## Five-year Summary of Selected Accident Data by State (Table 32, Page 55)

This table examines the number of accidents, fatal accidents, and fatalities by state for years 20042008.

Number of Accidents by Primary Accident Type \& State (Table 33, Page 56-57)
This table documents the first accident event by state. It also provides information about the total number of accidents and casualties by state.

## Number of Injured Victims by Primary Injury \& Vessel Type (Table 34, Page 58)

This table displays the number of injured victims by primary injury and vessel type.
Number of Fatal Victims by Life Jacket Wear, Cause of Death, \& Vessel Type (Table 35, Page 58) This table displays the number of fatal victims by vessel type and cause of death. The table also provides information on whether the deceased victim was wearing a life jacket.


Table 29 - DEATHS, INJURIES \& ACCIDENTS BY YEAR, 1996-2008

| Year | Fatalities | Injuries | Accidents |
| :---: | :---: | :---: | :---: |
| 1996 | 709 | 4442 | 8026 |
| 1997 | 821 | 4555 | 8047 |
| 1998 | 815 | 4612 | 8061 |
| 1999 | 734 | 4315 | 7931 |
| 2000 | 701 | 4355 | 7740 |
| 2001 | 681 | 4274 | 6419 |
| 2002 | 750 | 4062 | 5705 |
| 2003 | 703 | 3888 | 5438 |
| 2004 | 676 | 3363 | 4904 |
| 2005 | 697 | 3451 | 4969 |
| 2006 | 710 | 3474 | 4967 |
| 2007 | 685 | 3673 | 5191 |
| 2008 | 709 | 3331 | 4789 |

* On July 2, 2001, the Federal threshold of property damage for reports of accidents involving recreational vessels changed from $\$ 500$ to $\$ 2000$.

Casualty Data

| Table 30 - ACCIDENT, CASUALTY \& DAMAGE DATA BY STATE 2008 |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Jurisdiction | Number of Accidents |  |  |  | Persons Involved |  | Property Damage |
|  | Total Accidents | Fatal Accidents | Non-Fatal Injury Accidents | Property Damage Accidents | Deaths | Injured |  |
| Totals | 4789 | 619 | 2379 | 1791 | 709 | 3331 | \$54,282,587 |
| Alabama | 76 | 11 | 25 | 40 | 16 | 44 | \$2,226,628 |
| Alaska | 44 | 11 | 12 | 21 | 14 | 24 | \$743,719 |
| Arizona | 158 | 5 | 99 | 54 | 6 | 116 | \$463,031 |
| Arkansas | 66 | 13 | 30 | 23 | 14 | 42 | \$259,021 |
| California | 520 | 39 | 279 | 202 | 45 | 376 | \$5,554,554 |
| Colorado | 39 | 7 | 17 | 15 | 7 | 33 | \$111,338 |
| Connecticut | 53 | 9 | 20 | 24 | 11 | 31 | \$1,133,366 |
| Delaware | 11 | 3 | 4 | 4 | 3 | 6 | \$280,765 |
| Dist. of Columbia | 2 | 0 | 1 | 1 | 0 | 2 | \$3,000 |
| Florida | 616 | 50 | 267 | 299 | 55 | 371 | \$22,715,343 |
| Georgia | 150 | 16 | 85 | 49 | 18 | 104 | \$425,433 |
| Hawaii | 21 | 5 | 0 | 16 | 5 | 0 | \$189,441 |
| Idaho | 65 | 15 | 29 | 21 | 15 | 34 | \$241,298 |
| Illinois | 119 | 14 | 52 | 53 | 19 | 79 | \$449,550 |
| Indiana | 55 | 7 | 28 | 20 | 8 | 38 | \$256,988 |
| lowa | 38 | 0 | 25 | 13 | 0 | 30 | \$357,200 |
| Kansas | 38 | 4 | 14 | 20 | 5 | 16 | \$175,737 |
| Kentucky | 46 | 5 | 23 | 18 | 6 | 32 | \$707,302 |
| Louisiana | 110 | 31 | 55 | 24 | 38 | 98 | \$685,780 |
| Maine | 32 | 8 | 15 | 9 | 9 | 26 | \$96,226 |
| Maryland | 159 | 8 | 102 | 49 | 9 | 135 | \$872,979 |
| Massachusetts | 64 | 11 | 33 | 20 | 11 | 46 | \$510,118 |
| Michigan | 187 | 30 | 94 | 63 | 34 | 116 | \$858,762 |
| Minnesota | 86 | 12 | 50 | 24 | 12 | 59 | \$690,837 |
| Mississippi | 24 | 4 | 13 | 7 | 5 | 22 | \$364,800 |
| Missouri | 135 | 19 | 75 | 41 | 20 | 101 | \$706,889 |
| Montana | 31 | 12 | 14 | 5 | 14 | 20 | \$102,200 |
| Nebraska | 20 | 2 | 9 | 9 | 2 | 11 | \$98,650 |
| Nevada | 80 | 6 | 40 | 34 | 6 | 49 | \$367,937 |
| New Hampshire | 28 | 2 | 15 | 11 | 2 | 17 | \$53,087 |
| New Jersey | 140 | 7 | 64 | 69 | 10 | 97 | \$141,002 |
| New Mexico | 30 | 2 | 21 | 7 | 3 | 28 | \$77,845 |
| New York | 160 | 17 | 62 | 81 | 24 | 98 | \$1,789,950 |
| North Carolina | 148 | 16 | 89 | 43 | 18 | 121 | \$1,018,695 |
| North Dakota | 15 | 0 | 10 | 5 | 0 | 12 | \$47,990 |
| Ohio | 125 | 12 | 71 | 42 | 15 | 112 | \$902,722 |
| Oklahoma | 54 | 10 | 26 | 18 | 11 | 37 | \$716,700 |
| Oregon | 53 | 11 | 23 | 19 | 13 | 36 | \$465,563 |
| Pennsylvania | 59 | 8 | 37 | 14 | 8 | 54 | \$191,489 |
| Rhode Island | 35 | 4 | 10 | 21 | 4 | 15 | \$377,700 |
| South Carolina | 107 | 25 | 41 | 41 | 29 | 59 | \$1,603,152 |
| South Dakota | 16 | 3 | 5 | 8 | 3 | 10 | \$78,750 |
| Tennessee | 130 | 18 | 68 | 44 | 20 | 91 | \$1,493,851 |
| Texas | 218 | 55 | 104 | 59 | 61 | 167 | \$1,340,402 |
| Utah | 80 | 5 | 61 | 14 | 5 | 78 | \$172,800 |
| Vermont | 8 | 5 | 3 | 0 | 5 | 4 | \$21,600 |
| Virginia | 95 | 15 | 43 | 37 | 17 | 56 | \$370,168 |
| Washington | 98 | 18 | 46 | 34 | 22 | 72 | \$849,200 |
| West Virginia | 11 | 1 | 5 | 5 | 1 | 8 | \$28,000 |
| Wisconsin | 110 | 19 | 56 | 35 | 20 | 82 | \$345,964 |
| Wyoming | 11 | 2 | 6 | 3 | 2 | 7 | \$96,000 |
| Guam | 1 | 1 | 0 | 0 | 1 | 0 | \$0 |
| Puerto Rico | 1 | 0 | 1 | 0 | 0 | 3 | \$1,000 |
| Virgin Islands | 0 | 0 | 0 | 0 | 0 | 0 | \$0 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | \$0 |
| N. Marianas | 1 | 0 | 0 | 1 | 0 | 0 | \$200 |
| *Atlantic Ocean | 6 | 3 | 1 | 2 | 3 | 5 | \$398,865 |
| *Gulf | 1 | 1 | 0 | 0 | 1 | 0 | \$0 |
| *Pacific Ocean | 3 | 2 | 1 | 0 | 4 | 1 | \$51,000 |
| $\begin{aligned} & \text { \$1997 was the first y } \\ & \text { nine or more miles in } \\ & \text { dents submitted to th } \\ & \text { NJ's property damag } \end{aligned}$ | ar statistics wer the Gulf (of Mex Coast Guard th s to boats such | compiled for a ico, Alaska, etc.) hat did not have that each accid |  | e or more miles offshore ty damage estimates to b sidered to have $\$ 2000$ or th had $\$ 2000$ damages. | in the Atlantic oats in 2008 more in dan | Ocean and P However, NJ ages. The C | Pacific Ocean and J noted that acciCoast Guard adjusted |




\left.| Table 31 • ANNUAL RECREATIONAL BOATING FATALITY |  |  |  |
| ---: | ---: | ---: | ---: |
| RATES 1996-2008 |  |  |  |$\right]$



Table 32 • FIVE YEAR SUMMARY OF SELECTED ACCIDENT DATA BY STATE 2004-2008

|  | Total Number of Accidents |  |  |  |  | Fatal Accidents |  |  |  |  | Deaths |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 2004 | 2005 | 2006 | 2007 | 2008 | 2004 | 2005 | 2006 | 2007 | 2008 | 2004 | 2005 | 2006 | 2007 | 2008 |
| Totals | 4904 | 4969 | 4967 | 5191 | 4789 | 612 | 626 | 633 | 605 | 619 | 676 | 697 | 710 | 685 | 709 |
| Alabama | 70 | 69 | 87 | 96 | 76 | 17 | 15 | 19 | 10 | 11 | 20 | 16 | 24 | 11 | 16 |
| Alaska | 52 | 54 | 48 | 48 | 44 | 14 | 14 | 11 | 11 | 11 | 16 | 20 | 13 | 17 | 14 |
| Arizona | 174 | 194 | 209 | 167 | 158 | 10 | 5 | 14 | 8 | 5 | 11 | 5 | 14 | 8 | 6 |
| Arkansas | 55 | 68 | 55 | 81 | 66 | 5 | 12 | 6 | 15 | 13 | 8 | 13 | 8 | 18 | 14 |
| California | 603 | 630 | 569 | 601 | 520 | 35 | 55 | 39 | 48 | 39 | 43 | 58 | 42 | 55 | 45 |
| Colorado | 38 | 45 | 44 | 54 | 39 | 6 | 10 | 11 | 7 | 7 | 6 | 11 | 11 | 7 | 7 |
| Connecticut | 58 | 49 | 42 | 61 | 53 | 3 | 5 | 5 | 7 | 9 | 3 | 5 | 5 | 8 | 11 |
| Delaware | 16 | 18 | 9 | 15 | 11 | 1 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 2 | 3 |
| Dist. of Columbia | 3 | 1 | 1 | 4 | 2 | 2 | 0 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 |
| Florida | 713 | 603 | 633 | 663 | 616 | 60 | 67 | 60 | 67 | 50 | 66 | 78 | 68 | 75 | 55 |
| Georgia | 118 | 111 | 149 | 139 | 150 | 21 | 13 | 18 | 14 | 16 | 24 | 16 | 18 | 18 | 18 |
| Hawaii | 8 | 10 | 4 | 10 | 21 | 1 | 5 | 4 | 2 | 5 | 2 | 5 | 4 | 2 | 5 |
| Idaho | 70 | 54 | 74 | 63 | 65 | 9 | 5 | 7 | 7 | 15 | 10 | 6 | 10 | 8 | 15 |
| Illinois | 72 | 101 | 70 | 107 | 119 | 17 | 16 | 15 | 11 | 14 | 18 | 16 | 18 | 13 | 19 |
| Indiana | 51 | 41 | 51 | 32 | 55 | 7 | 3 | 6 | 5 | 7 | 7 | 4 | 6 | 7 | 8 |
| lowa | 32 | 53 | 40 | 47 | 38 | 2 | 8 | 4 | 7 | 0 | 2 | 9 | 5 | 9 | 0 |
| Kansas | 36 | 24 | 39 | 24 | 38 | 2 | 4 | 5 | 5 | 4 | 2 | 4 | 5 | 6 | 5 |
| Kentucky | 46 | 58 | 65 | 59 | 46 | 9 | 14 | 13 | 13 | 5 | 9 | 20 | 15 | 13 | 6 |
| Louisiana | 156 | 126 | 119 | 119 | 110 | 35 | 33 | 21 | 28 | 31 | 44 | 35 | 24 | 30 | 38 |
| Maine | 41 | 46 | 56 | 90 | 32 | 6 | 13 | 12 | 13 | 8 | 6 | 16 | 12 | 15 | 9 |
| Maryland | 178 | 183 | 138 | 170 | 159 | 12 | 14 | 8 | 8 | 8 | 16 | 15 | 8 | 10 | 9 |
| Massachusetts | 55 | 45 | 46 | 36 | 64 | 9 | 8 | 9 | 9 | 11 | 9 | 9 | 10 | 9 | 11 |
| Michigan | 143 | 161 | 185 | 185 | 187 | 26 | 26 | 24 | 30 | 30 | 27 | 28 | 30 | 34 | 34 |
| Minnesota | 88 | 114 | 113 | 123 | 86 | 15 | 21 | 11 | 12 | 12 | 15 | 24 | 14 | 15 | 12 |
| Mississippi | 35 | 23 | 31 | 31 | 24 | 11 | 6 | 7 | 7 | 4 | 11 | 6 | 7 | 7 | 5 |
| Missouri | 172 | 202 | 175 | 168 | 135 | 15 | 22 | 16 | 7 | 19 | 15 | 24 | 17 | 7 | 20 |
| Montana | 12 | 12 | 16 | 24 | 31 | 5 | 5 | 6 | 4 | 12 | 5 | 7 | 6 | 4 | 14 |
| Nebraska | 36 | 28 | 33 | 31 | 20 | 6 | 2 | 4 | 6 | 2 | 6 | 2 | 6 | 7 | 2 |
| Nevada | 65 | 93 | 82 | 76 | 80 | 6 | 5 | 4 | 5 | 6 | 6 | 5 | 4 | 5 | 6 |
| New Hampshire | 35 | 45 | 79 | 54 | 28 | 2 | 1 | 5 | 5 | 2 | 2 | 1 | 5 | 6 | 2 |
| New Jersey | 124 | 100 | 84 | 136 | 140 | 8 | 4 | 10 | 8 | 7 | 8 | 4 | 11 | 8 | 10 |
| New Mexico | 21 | 31 | 34 | 38 | 30 | 0 | 5 | 0 | 1 | 2 | 0 | 5 | 0 | 1 | 3 |
| New York | 178 | 190 | 152 | 180 | 160 | 17 | 15 | 14 | 18 | 17 | 18 | 15 | 14 | 21 | 24 |
| North Carolina | 140 | 164 | 175 | 158 | 148 | 19 | 16 | 20 | 19 | 16 | 20 | 17 | 24 | 19 | 18 |
| North Dakota | 7 | 9 | 7 | 10 | 15 | 3 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| Ohio | 105 | 132 | 111 | 121 | 125 | 7 | 11 | 12 | 11 | 12 | 7 | 12 | 12 | 14 | 15 |
| Oklahoma | 55 | 62 | 71 | 56 | 54 | 13 | 10 | 13 | 11 | 10 | 13 | 13 | 17 | 12 | 11 |
| Oregon | 50 | 51 | 47 | 60 | 53 | 9 | 14 | 17 | 9 | 11 | 9 | 15 | 20 | 9 | 13 |
| Pennsylvania | 58 | 61 | 56 | 64 | 59 | 11 | 9 | 19 | 10 | 8 | 11 | 12 | 25 | 11 | 8 |
| Rhode Island | 41 | 38 | 37 | 44 | 35 | 4 | 0 | 3 | 4 | 4 | 7 | 0 | 5 | 4 | 4 |
| South Carolina | 83 | 83 | 93 | 104 | 107 | 12 | 12 | 13 | 15 | 25 | 13 | 13 | 14 | 16 | 29 |
| South Dakota | 8 | 18 | 16 | 12 | 16 | 1 | 2 | 3 | 2 | 3 | 2 | 2 | 3 | 2 | 3 |
| Tennessee | 173 | 114 | 149 | 146 | 130 | 28 | 10 | 15 | 16 | 18 | 32 | 10 | 16 | 17 | 20 |
| Texas | 159 | 144 | 195 | 197 | 218 | 30 | 30 | 44 | 40 | 55 | 32 | 32 | 45 | 46 | 61 |
| Utah | 56 | 79 | 85 | 71 | 80 | 3 | 9 | 11 | 5 | 5 | 3 | 9 | 12 | 5 | 5 |
| Vermont | 5 | 2 | 1 | 3 | 8 | 1 | 0 | 1 | 1 | 5 | 1 | 0 | 1 | 1 | 5 |
| Virginia | 136 | 127 | 137 | 145 | 95 | 20 | 12 | 20 | 11 | 15 | 20 | 14 | 23 | 12 | 17 |
| Washington | 134 | 128 | 96 | 97 | 98 | 20 | 24 | 20 | 22 | 18 | 22 | 25 | 21 | 26 | 22 |
| West Virginia | 9 | 14 | 21 | 26 | 11 | 2 | 6 | 8 | 5 | 1 | 3 | 6 | 8 | 7 | 1 |
| Wisconsin | 107 | 127 | 99 | 119 | 110 | 24 | 17 | 10 | 18 | 19 | 24 | 20 | 10 | 18 | 20 |
| Wyoming | 3 | 10 | 19 | 8 | 11 | 1 | 2 | 3 | 3 | 2 | 1 | 3 | 3 | 4 | 2 |
| Guam | 2 | 5 | 2 | 1 | 1 | 2 | 2 | 1 | 0 | 1 | 6 | 2 | 1 | 0 | 1 |
| Puerto Rico | 8 | 7 | 10 | 7 | 1 | 3 | 1 | 4 | 1 | 0 | 3 | 1 | 5 | 2 | 0 |
| Virgin Islands | 5 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| Am. Samoa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| N. Marianas | 3 | 4 | 3 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 |
| *Atlantic Ocean | 1 | 3 | 2 | 2 | 6 | 1 | 3 | 2 | 1 | 3 | 1 | 3 | 5 | 3 | 3 |
| *Gulf | 1 | 3 | 1 | 5 | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 4 | 1 | 1 | 1 |
| *Pacific Ocean | 1 | 2 | 2 | 0 | 3 | 1 | 0 | 2 | 0 | 2 | 1 | 0 | 2 | 0 |  |

*1997 was the first year statistics were compiled for accidents that occurred three or more miles offshore in the Atlantic Ocean and Pacific Ocean and nine or more miles in the Gulf (of Mexico, Alaska, etc.)



|  | $\begin{aligned} & \text { \# } \\ & 0 \\ & 0 \\ & \bar{c} \\ & \vdots \\ & \vdots \\ & \stackrel{\rightharpoonup}{0} \end{aligned}$ |  |  |  | $\begin{aligned} & 0 \\ & 0 \\ & 0 \\ & 0 \end{aligned}$ |  |  | $\begin{aligned} & \hline \overline{\widehat{N}} \\ & \text { 关 } \end{aligned}$ |  |  | $\begin{aligned} & \hline 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & 0 \\ & \hline \end{aligned}$ |  | $\left.\begin{aligned} & \hline 0 \\ & 0 \\ & \sum_{0}^{0} \\ & 0 . \\ & \end{aligned} \right\rvert\,$ |  |  | $\begin{aligned} & \mathrm{O} \\ & \stackrel{\rightharpoonup}{\mathbf{\rightharpoonup}} \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Abrasion | 8 | 0 |  | 1 | 1 | 0 | 0 | 1 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| Amputation | 46 | 0 |  | 4 | 0 | 0 | 1 | 0 | 25 | 11 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| Back Injury | 215 | 1 | 3 | 14 | 1 | 0 | 0 | 0 | 131 | 55 | 6 | 1 | 0 | 0 | 0 | 1 | 2 |
| Broken Bones | 610 | 4 | 6 | 40 | 3 | 2 | 1 | 4 | 282 | 256 | 5 | 4 | 0 | 0 |  | 1 | 2 |
| Burns | 87 | 0 | 3 | 33 | 0 | 3 | 0 | 0 | 37 | 6 | 1 | 0 | 0 | 1 | 0 | 1 | 2 |
| Carbon Monoxide | 40 | 0 | 0 | 18 | 0 | 8 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Contusion | 428 | 7 | 5 | 31 | 5 | 1 | 1 | 4 | 186 | 167 | 10 | 3 | 1 | 2 | 1 | 0 | 4 |
| Dislocation | 64 | 0 | 1 | 4 | 1 | 0 | 0 | 2 | 33 | 19 | 0 | 1 | 0 | 2 | 0 |  | 0 |
| Electrocution | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Head Injury | 432 | 2 | 3 | 37 | 1 | 0 | 0 | 1 | 235 | 137 | 12 | 2 | 1 | 0 | 0 | 0 | 1 |
| Hypothermia | 357 | 2 | 6 | 22 | 77 | 2 | 9 | 14 | 150 | 4 | 0 | 4 | 41 | 11 | 2 | 3 | 10 |
| Internal Injuries | 100 | 0 | 0 | 6 | 3 | 0 | 1 | 1 | 40 | 44 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| Laceration | 604 | 6 | 8 | 57 | 1 | 0 | 0 | 2 | 329 | 153 | 24 | 4 | 3 | 7 | 1 | 2 | 7 |
| Neck Injury | 85 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 55 | 17 | 3 | 0 | 0 | 1 | 0 | 0 | 0 |
| Shock | 9 | 0 | 0 | 0 | 0 | 0 |  | 0 | 5 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Spinal Injury | 29 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 23 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sprain/Strain | 102 | 1 | 0 | 10 | 0 | 0 | 1 | 1 | 63 | 24 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Teeth and Jaw | 20 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 7 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 19 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 14 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Unknown | 76 | 0 | 6 | 7 | 1 | 0 | 0 | 3 | 37 | 9 | 6 | 0 | 0 | 2 | , | 0 | 5 |
| All Injuries | 3331 | 25 | 42 | 296 | 96 | 16 | 14 | 33 | 1669 | 920 | 72 | 25 | 48 | 26 | 4 | 10 | 35 |



RECREATIONAL BOATING STATISTICS 2008

## REGISTRATION DATA

## Explanation of Registration Data Section

The following section contains fives tables and figures that examine boat registration information. Registered vessels are those vessels that are required to be recorded by a state, which includes numbered vessels and other forms of registration. Without a record, a vessel cannot be legally operated. Not all states have the same registration requirements. While some states may only register vessels with a motor, others may register sailboats, canoes, kayaks, and rowboats in addition to those vessels with a motor.

There are a few notes about the data in this section. First, Connecticut reported that their 2007 registration should have been 112,163 . Total registration in the tables and graphs have not been updated to reflect this change. Ohio included 5576 livery vessels in their 2008 figures; they did not include 5522 livery vessels in their 2007 figure.

## Recreational Vessel Registration by Year, 1980-2008 (Table 36 \& Figure 12, Page 61)

This table provides information about recreational vessel registration for each year from 1980-2008. The accompanying figure displays a trend line from 1980-2008.

## Recreational Vessel Registration by Length \& Means of Propulsion (Table 37, Page 62)

The top section of the table provides tallies for the number of mechanically-propelled vessels, the number of manually-propelled vessels, and a summation of these two categories. The middle section of the table documents mechanically-propelled vessel registration by length category and engine type. The bottom section of the table focuses on mechanically propelled vessels.

## Registration Data by State (Table 38, Page 63)

This table examines recreational vessel registration by state. It provides a ranking of states by vessel registration, specifies the scope of the state's registration program, and provides a two-year comparison of registration information.

Distribution of 2008 Recreational Vessel Registration by State (Figure 13, Page 64)
This figure provides the percentage that each state contributed to national registration. So, for instance, California registered 858,853 vessels. Out of the total national registration of 12,692,892, California contributed $6.8 \%((858,853 / 12,692,892)$ * 100) of registered vessels to the national count.


# Table 37 - RECREATIONAL VESSEL REGISTRATION BY LENGTH AND MEANS OF PROPULSION 2008 

| Mechanically Propelled |  | Not Mechanically Propelled |  |  | Total |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 11,841,281 |  | 851,611 |  |  | 12,692,892 |  |
| STATE REGISTERED BOATS THAT ARE MECHANICALLY PROPELLED |  |  |  |  |  |  |
|  | Means of Mechanical Propulsion |  |  | Auxiliary Sail |  | Total |
|  | Inboard | Outboard | Sterndrive | Inboard | Outboard |  |
| Under 16 feet | 1,363,596 | 3,424,355 | 179,860 | 9,672 | 12,406 | 4,989,889 |
| 16 to less than 26 feet | 734,433 | 4,197,363 | 1,278,980 | 16,190 | 40,514 | 6,267,480 |
| 26 to less than 40 feet | 173,974 | 113,352 | 162,540 | 40,381 | 11,332 | 501,579 |
| 40 to 65 feet | 43,898 | 7,368 | 12,958 | 5,804 | 791 | 70,819 |
| Over 65 feet | 6,037 | 2,458 | 2,897 | 99 | 23 | 11,514 |
| Total | 2,321,938 | 7,744,896 | 1,637,235 | 72,146 | 65,066 | 11,841,281 |

STATE REGISTERED BOATS NOT MECHANICALLY PROPELLED

| Rowboats | Sailboats | Canoes/Kayaks | Other Boats | Total |
| :---: | :---: | :---: | :---: | :---: |
| 105,790 | 127,869 | 384,770 | 233,182 | 851,611 |


| Table 38 - RECREATIONAL VESSEL REGISTRATION DATA BY STATE 2007-2008 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Rank | 2008 | 2007 | Scope of Current Boat Registration System |
| Nationally |  | 12,692,892 | 12,875,568 |  |
| AL | 16 | 272,558 | 274,176 | All motorboats, sailboats and rental boats |
| AK | 45 | 47,534 | 47,548 | All undocumented powerboats |
| AS | 56 | 27 | 106 | All watercraft |
| AZ | 30 | 140,291 | 144,570 | All watercraft, except inflatables 12 feet in length or less |
| AR | 22 | 199,104 | 206,195 | All motorboats and sailboats |
| CA | 3 | 858,853 | 964,881 | All motorboats; sailboats over 8 feet in length |
| CO | 34 | 95,330 | 98,055 | All watercraft powered by motor or sail - sailboards exempt |
| CT** | 31 | 110,650 | 108,539 | All motorboats; sailboats 19.5 feet or more in length |
| DE | 42 | 56,669 | 61,569 | All motorboats |
| DC | 54 | 2,922 | 2,866 | All watercraft |
| FL | 1 | 974,553 | 991,680 | All motorboats |
| GA | 12 | 350,479 | 344,597 | All motorboats; sailboats 12 feet or more in length |
| GU | 53 | 3,277 | 3,278 | All watercraft (estimated) |
| HI | 51 | 15,404 | 15,094 | All motorboats; sailboats over 8 feet in length |
| ID | 36 | 89,026 | 91,612 | All motorboats and sailboats |
| IL | 10 | 378,208 | 379,454 | All watercraft, except non-profit org. owned canoes and kayaks |
| IN | 17 | 271,532 | 241,474 | All motorboats |
| IA | 21 | 231,333 | 213,767 | All watercraft with exceptions (a) |
| KS | 35 | 91,067 | 93,900 | All motorboats and sailboats |
| KY | 28 | 173,981 | 176,716 | All motorboats, except electric motors 1 hp or less |
| LA | 15 | 302,753 | 301,249 | All motorboats; sailboats more than 12 feet in length |
| ME | 32 | 109,657 | 112,818 | All motorboats |
| MD | 23 | 199,087 | 202,892 | All motorboats |
| MA | 29 | 145,113 | 145,496 | All motorboats |
| MI | 4 | 816,752 | 830,743 | All watercraft with exceptions (b) |
| MN | 2 | 867,446 | 866,496 | All motorboats with exceptions (c) |
| MS | 25 | 191,312 | 180,356 | All motorboats and sailboats |
| MO | 14 | 322,253 | 321,782 | All motorboats; sailboats over 12 feet in length |
| MT | 37 | 84,988 | 79,651 | All motorboats; sailboats 12 feet or more in length |
| NE | 38 | 83,280 | 83,722 | All motorboats |
| NV | 41 | 57,519 | 59,895 | All motorboats, sailboats, rowboats |
| NH | 33 | 96,205 | 100,261 | All motorboats; sailboats 20 feet or more in length |
| NJ | 26 | 185,359 | 183,147 | All watercraft with exceptions (d) |
| NM | 48 | 33,304 | 38,100 | All motorboats and sailboats |
| NY | 7 | 485,541 | 494,020 | All motorboats |
| NC | 11 | 371,879 | 375,815 | All motorboats; sailboats more than 14 feet in length |
| ND | 46 | 46,067 | 53,519 | All watercraft |
| CNMI | 55 | 330 | 380 | All motorboats |
| $\mathrm{OH}^{*}$ | 9 | 416,586 | 415,228 | All watercraft; *5576 livery vessels included in '08; 5522 livery vessels not included in '07 |
| OK | 24 | 196,052 | 223,758 | All watercraft |
| OR | 27 | 180,063 | 184,147 | All motorboats; sailboats 12 feet or more in length |
| PA | 13 | 338,316 | 342,427 | All motorboats and certain non-powered craft (e) |
| PR | 40 | 59,580 | 62,360 | All motorboats; vessels adapted to hold a motor |
| RI | 47 | 42,524 | 43,665 | All watercraft except canoes, kayaks \& rowboats < 12 feet |
| SC | 8 | 436,844 | 442,040 | All watercraft |
| SD | 43 | 56,604 | 53,570 | All motorboats; all other boats over 12 feet in length |
| TN | 18 | 271,475 | 274,914 | All motorboats and sailboats |
| TX | 6 | 597,428 | 599,567 | All motorboats and sailboats 14 feet or more in length |
| UT | 39 | 73,009 | 76,921 | All motorboats and sailboats |
| VT | 49 | 30,429 | 31,482 | All motorboats |
| VI | 52 | 6,915 | 5,455 | All watercraft |
| VA | 20 | 249,312 | 251,440 | All motorboats |
| WA | 19 | 264,393 | 270,789 | All motorboats with exceptions (f); sailboats >16 ft in length |
| WV | 44 | 49,930 | 63,064 | All motorboats |
| WI | 5 | 634,546 | 617,366 | All motorboats; sailboats over 12 feet in length |
| WY | 50 | 27,243 | 26,956 | All motorboats and sailboats |
| (a) Iowa excludes inflatables under 7 feet in length and canoes/kayaks under 13 feet in length. (b) Michigan excludes manually propelled boats 16 feet or less in length, and nonmotorized rafts, canoes, and kayaks. (c) Minnesota excludes nonmotorized boats nine feet or less in length, duckboats during duckhunting season, and riceboats during harvest season and seaplanes. (d) New Jersey excludes non-motorized boats 12 feet or less in length and canoes, kayaks, racing shells and rowing sculls. (e) Pennsylvania registers non-powered craft using lakes or access areas owned by the State Fish \& Boat Commission. (f) Washington excludes motorboats < 16 feet with motors 10 horsepower or less used solely on exclusive state waters. *OH included 5576 livery vessels in their 2008 figures; they did not include 5522 livery vessels in their 2007 figure; **CT reported that their 2007 number should have been 112,163. Totals for 2007 have not been updated to reflect this revision. |  |  |  |  |




VESSEL INFORMATION - TO BE COMPLETED BY THE OPERATOR OF VESSEL A

\begin{tabular}{|c|c|c|c|c|}
\hline TYPE OF VESSEL
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KAYaK OTME
JET boat \& \begin{tabular}{l}
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IMPROPERL LOADING
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## ACCIDENT DESCRIPTIOW

DESCMDE WHAT NARPENED (SEGUENCE OF EVENTS) AND CCNTREUTNG FACTORS. INCLUCE FALURE OF MACHINERY OR EOUPNENT, INCLUDE A DIAGRAM ANO CONTWUE ON ADDITIONAL SHEETS IF NECESSARY, NCLUDE ANY MFORWMTION REGARDNG THE INVOLVENENT OF ALCOHOL AND I OR GRUGS IN CALSNG OR CONTREUTING TO THE ACCIDENT, WCLUDE ANY DESCRIFTNE NFORNANION ABOUT THE USE OF PERSCNAL FLOATATION DEVCES (PFDS). PLEASE DO NOT LIST ANY PERSCNUL IDENTIFERS WTHS SECTION - SUCH AS NAMES OF MCIVDUALS. TELEPMONE NUMBERS, STREET ACCRESSES, ETC. REFER TO INDVIDUALS AS OPERATOR A OPERATOR E VICTM T, VCTM 2 ETC, ANO TO TME VESSEL(\$] INVCLVED AS VESSELA VESSEL B, ETC. FOR EXAMPLE OPERATOR DF VESSEL (A) DD NDT HAVE A PGOPCR LOCNCUT AND RAN FTOOVESSE (I) NUURNGVICTIMS (1) AND (2) CNVESSEL (B)

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| OWNERS OF PROPERTY INVOLVED [IF MORE THAN ONE - LIST ON A SEPARATE SHEET) |  |  |  |  |  |  |
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| OWNER INFORMATION FOR VESSEL A |  |  |  |  |  |  |
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| ADDRESS | STREET |  | Crry |  |  |  |
| TELEPMONE MUMBER ( |  | 1 | STATE | 21P code |  |  |
| PERSON SUBMITING THIS REPORT FOR VESSEL A |  |  |  |  |  |  |
| STATUS OF PERSON COMPUTTNG THS REPORT $\square$ CPERATOR $\square$ ONWER$\square$ OTMER (OPERATOR RND ONNER ARE UNELE TD CONPLETE THIS REFORT) -SPECFY WHOIS COMPLETING THIS REPORT: |  |  |  |  |  |  |


| NALEE | LAET | FIrst | TELEPHONE NUMBER ! |  | ) |
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| ADpRess | STREET | Crry | STATE | 21 PCO |  |
| SICNATURE |  |  | DATE SUAMITIED |  |  |
| OPERATOR OR OWNER OF THE OTHER VESSEL (VESSEL B) INVOLVED IN THE ACCIDENT <br> ACH VESSEL OPERATOR OR OWNER IS REQUIRED TO FILE A SEPARATE AND COMPLETE REPORT |  |  |  |  |  |
| NAME | LAST | FREST | TEFPTONE KUMESR ( ) |  |  |
| ADCRESS | STREET | City | STATE | 219 |  |
| FOR STATE AGENCY USE ONLY |  |  |  |  |  |
| OFFICIAL | UAST NAME | FRest | TELEPHONE MUMBER ( |  | $)$ |
| PRIMARY CAUSE OF THE ACCIDENT |  | SECONDAKT CAuse OF THE ACCIDENT |  |  |  |

SIGNATURE OF RTVIEWING OFFICAL
DATE REVENED

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## Glossary

Airboat - A boat propelled by an engine producing air thrust. This type of boat does not include ground effect vessels or air cushion vehicles (hovercraft).

At anchor - Held in place in the water by an anchor; includes "moored" to a buoy or anchored vessel and "dragging anchor".

Auxiliary Sail - A sailboat also equipped with an engine.
Cabin motorboat - A motorboat equipped with accommodation spaces, i.e., bunks or berths.
Canoe - A small narrow boat, propelled by paddles. Canoes usually are pointed at both bow and stern and are normally open on top, but can be covered.

Capsizing - Overturning of a vessel.
Carbon Monoxide Poisoning - Death or injury resulting from an odorless, colorless gas generated from auxiliary boat equipment (stoves, heaters, refrigerators, generators, hot water heaters, etc.), another boat's exhaust, or the exhaust of the vessel on which persons were either aboard or in close proximity.

Careless/Reckless Operation - A vessel is being operated carelessly or negligently when it endangers the life, limb or property of persons onboard or other vessels.

Collision with fixed object - The striking of any fixed object, above or below the surface of the water.
Collision with floating object - Collision with any waterborne object above or below the surface that is free to move with the tide, current, or wind, except another vessel.

Collision with vessel - Any striking together of two or more vessels, regardless of operation at time of the accident, is a collision.

Congested Waters - Where the body of water is either too small or narrow to safely accommodate the number of boats on it.

Cruising - Proceeding normally, unrestricted, with an absence of drastic rudder or engine changes.
Documented vessel - A vessel of five or more net tons owned by a citizen of the United States and used exclusively for pleasure with a valid marine document issued by the Coast Guard. Documented vessels are not numbered.

Drifting - Underway, but proceeding over the bottom without use of engines, oars or sails; being carried along only by the tide, current, or wind.

Electrocution - Death or injury resulting from an electrical current that comes in contact with water causing electrocution of the victim.

Excessive Speed - Speed above that which a reasonable and prudent person would have operated under the conditions that existed. It is not necessarily a speed in excess of a posted limit.

Failure to vent - Prior to starting the engine, failure to turn on the powered ventilation system that brings in "fresh air" and expels gasoline vapors from the engine compartment.

Fall in Boat - Any operator or passenger who slips, trips, or falls on board or within the vessel.

Falls on Boat - Any operator or passenger who impacts the vessel.
Falls Overboard - Any operator or passenger who falls off of the vessel.
Fiberglass (plastic) hull - Hulls of fiber-reinforced plastic. The laminate consists of two basic components, the reinforcing material (glass filaments) and the plastic or resin in which it is embedded.

Fire/explosion (fuel) - Accidental combustion of vessel fuel, liquids, including their vapors, or other substances such as wood.

Fire/explosion (other) - Accidental burning or explosion of any material onboard except vessel fuels or their vapors.

Flooding/Swamping - Filling with water, regardless of method of ingress, but retaining sufficient buoyancy to remain on the surface.

Fueling - Any stage of the fueling operation; primarily concerned with introduction of explosive or combustible vapors or liquids on board.

Grounding - Running aground of a vessel, striking or pounding on rocks, reefs, or shoals; stranding.
Hazardous Waters - Rapid tidal flows (the vertical movement of water) and/or currents (the horizontal flow of water) resulting in hazardous conditions in which to operate a boat.

Houseboat - A motorized vessel designed primarily with accommodation spaces with little or no foredeck or cockpit, with low freeboard and with a low length to beam ratio.

Hull Failure - Defect or failure of the structural body of a vessel (i.e., hull material, design, or construction) not including superstructure, masts, or rigging.

Ignition of Spilled Fuel or Vapor - Accidental combustion of vessel fuel, liquids, and/or their vapors.
Improper anchoring - Where a boat is either in the process of being anchored incorrectly or incorrectly held in place in the water by an anchor.

Improper loading - Loading, including weight shifting, of the vessel causing instability, limited maneuverability, or dangerously reduced freeboard.

Improper lookout - No proper watch; the failure of the operator to perceive danger because no one was serving as lookout, or the person so serving failed in that regard. Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and of the risk of collision.

Inflatable - A vessel constructed with its sides and bow made of flexible tubes containing pressurized gas. On smaller inflatables, the floor and hull beneath it is often flexible. On larger inflatables, the boat often has a rigid floor and solid hull capable of supporting a more powerful transom mounted outboard engine or even an inboard engine.

Kayak - A small boat with a cockpit that is propelled by a double-bladed paddle by a sitting paddler.
Lack of or improper boat lights - Insufficient and/or improper lights shown by a boat that indicate course, position, and occupation, such as fishing or towing.

Machinery Failure - Defect and/or failure in the machinery or material, design or construction, or com-
ponents installed by the manufacturer involved in the mechanical propulsion of the boat (e.g., engine, transmission, fuel system, electric system, and steering system).

Maneuvering - Changing of course, speed, or similar boat handling action during which a high degree of alertness is required or the boat is imperiled because of the operation, i.e. docking, mooring, undocking, etc.

Motorboat - Any vessel equipped with propulsion machinery.
Numbered vessel - An undocumented vessel numbered by a state with an approved numbering system under Chapter 123 of title 46, U.S.C.

Open Motorboat - Craft of open construction specifically built for operating with a motor, including boats canopied or fitted with temporary partial shelters.

Operator Inattention - Failure on the part of the operator to pay attention to the vessel, its occupants, or the environment in which the vessel is operating.

Operator Inexperience - Lack of practical experience or knowledge in operating a vessel or, more particularly, the vessel involved in the accident.

Outboard - An engine not permanently affixed to the structure of the craft, regardless of the method or location used to mount the engine, e.g., motor wells, "kicker pits", motor pockets, etc.

Overloading - Excessive loading of the vessel causing instability, limited maneuverability, dangerously reduced freeboard, etc.

Passenger/Skier Behavior - Behavior by any of the boats passengers as well as those being towed that interferes with the safe operation of a vessel.

Personal Watercraft - Craft designed to be operated by a person or persons sitting, standing or kneeling on the craft rather than within the confines of a hull.

Pontoon Boat - A boat consisting of a rigid structure connecting at least two parallel fore (front) and aft (back) rigid sealed buoyancy chambers.

Restricted Vision - A vessel operator's vision is said to be restricted when it is limited by a vessel's bow high trim, or by glare, sunlight, bright lights, a dirty windshield, spray, a canopy top, etc.

Rowboat - A open boat propelled by one or more persons using oars.
Rules of the Road Infraction - Violation of the statutory and regulatory rules governing the navigation of vessels.

Sail (only) - Any boat whose sole source of propulsion is the natural element (i.e., wind) or a boat designed or intended to be propelled primarily by sail, regardless of size or type.

Sharp Turn - An immediate or abrupt change in the boat's course of direction.
Sinking - Losing enough buoyancy to settle below the surface of the water.
Skier Mishap - Skier mishap is defined by persons (1) falling off their water-skis, (2) striking a fixed or submerged object, or by (3) becoming entangled or struck by the tow line. Also includes mishaps involving inner-tubes and other devices on which a person can be towed behind a boat.

Standing/Sitting on gunwales, bow, and transom - Standing/Sitting on the upper edge of the side of a boat, usually on a small projection above the deck; and/or standing/sitting on the most forward part of the boat; and/or standing/sitting on the back of the boat.

Starting in Gear - The boat's engine is started with the transmission in forward or reverse.
Steel hull - Hulls of sheet steel or steel alloy, not those with steel ribs and wood, canvas, or plastic hull coverings.

Sterndrive - An inboard/outboard engine system, with the engine inside the hull connected to an external lower unit containing a propeller. Steering is achieved by turning the lower unit.

Struck by Boat - A person is struck by a boat.
Struck by Propeller/Propulsion Unit - A person is struck by the propeller, propulsion unit, or steering machinery.

Struck Submerged Object - A boat's collision with any waterborne or fixed object that is below the surface of the water.

Towing - Engaged in towing any vessel or object, other than a person.
Wake - The track in the water of a moving boat; commonly used for the disturbance of the water (waves) resulting from the passage of the boat's hull.

Weather - As a contributing factor of an accident, "Weather" is supposed to signify a stormy or windy condition, usually connoting rough or high seas and dangerous operating conditions.

Wood hull - Hulls of plywood, molded plywood, wood planking, or any other wood fiber in its natural consistency, including those of wooden construction that have been "sheathed" with fiberglass or sheet metal.

| AL | Alabama | NJ | New Jersey |
| :--- | :--- | :--- | :--- |
| AK | Alaska | NM | New Mexico |
| AZ | Arizona | NY | New York |
| AR | Arkansas | NC | North Carolina |
| CA | California | ND | North Dakota |
| CO | Colorado | OH | Ohio |
| CT | Connecticut | OK | Oklahoma |
| DE | Delaware | OR | Oregon |
| DC | District of Columbia | PA | Pennsylvania |
| FL | Florida | RI | Rhode Island |
| GA | Georgia | SC | South Carolina |
| HI | Hawaii | SD | South Dakota |
| ID | Idaho | TN | Tennessee |
| IL | Illinois | TX | Texas |
| IN | Indiana | UT | Utah |
| IA | Iowa | VT | Vermont |
| KS | Kansas | VA | Virginia |
| KY | Kentucky | WV | Washington |
| LA | Louisiana | West Virginia | Wisconsin |
| ME | Maine | WY | Wyoming |
| MD | Maryland | GU | Guam |
| MA | Massachusetts | PR | Puerto Rico |
| MI | Michigan | VI | Virgin Islands |
| MN | Minnesota | AS | American Samoa |
| MS | Mississippi | CNMI | Northern Mariana Islands |
| MO | Missouri | AT | Atlantic Ocean |
| MT | Montana | GL | Gulf of Mexico |
| NE | Nebraska | PC | Pacific Ocean |
| NV | Nevada |  |  |
| NH | New Hampshire |  |  |

