

U.S. Department  
of Transportation  
**United States  
Coast Guard**



## **BOATING STATISTICS - 1998**



**COMDTPUB P16754.12**

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FOREWORD

Under the authority of Title 46, United States Code, the Operations 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 Operations Policy Directorate, the Office of Boating Safety has Recreational Boating Safety Program responsibility.

Boating Statistics 1998, the 40th annual report, contains statistics on recreational boating accidents, and state and Coast Guard boat numbering activities. In 1998, the states and the Coast Guard worked together to fully implement an electronic data transfer program that enables the states to electronically manage and transmit recreational boating accident report data to the Coast Guard. Approximately 80 percent of the national accident report data for 1998 was electronically transmitted by states participating in the Boating Accident Report Database (BARD) program. Our vision for the BARD program is a real time data capture process where customers have immediate access to data via the Internet.

This publication is a result of the coordinated effort of the Coast Guard and those jurisdictions which have Federally approved boat numbering 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 except Alaska.

Boating Statistics 1998 may be copied freely in the interest of boating safety. For questions and suggestions regarding content, availability of the current or back issues, use the address or telephone number at the top of this page. For an electronic copy, visit the Office of Boating Safety Web Site at [www.uscgboating.org](http://www.uscgboating.org).

M. F. HOLMES  
 Captain, U.S. Coast Guard  
 Chief, Office of Boating Safety

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## **INTRODUCTION**

### **SCOPE**

This report contains statistics on numbered boats and recreational boating accidents, and information on boating safety activities for calendar year 1998. States and jurisdictions with Federally approved boat numbering systems file official reports which the Coast Guard uses to provide the boat numbering statistics. Coast Guard numbering records cover the State of Alaska, which does not have a numbering system. Data for the accident statistics come from three sources: (1) Boating Accident Report data forwarded to the Coast Guard by jurisdictions with an approved numbering and casualty reporting system; (2) reports submitted directly to the Coast Guard in Alaska; and (3) 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 investigations, information is collected from the accident reports filed by boat operators.

### **ACCIDENT REPORTING**

Current regulations (33 CFR 173-4) require the operator of any vessel, numbered or used for recreational purposes to file a Boating Accident Report (BAR) if the vessel is involved in an accident that results in:

1. Loss of life; or
2. Personal injury which requires medical treatment beyond first aid; or
3. Damage to the vessel and other property exceeding \$500; or
4. Complete loss of the vessel.

Boat operators are required to report their accidents to authorities in the State where the accident occurred, or directly to the Coast Guard if the accident occurred in Alaska. States with approved numbering systems furnish the Coast Guard with Boating Accident Report data. The minimum reporting requirements are set by Federal regulation, but States are allowed to have stricter requirements. The statistics in this publication cover only accidents meeting the Federal minimum reporting requirements listed above.

The statistics in this publication cover boating accidents reported on waters of joint Federal and State jurisdiction and exclusive State jurisdiction. The statistics include any data received of accidents on waters under exclusive jurisdiction of Alaska, even though the reports are not required.

Most States use Boating Accident Report forms that are similar to the Coast Guard form. A copy of the Coast Guard BAR form is on pages nine through eleven.

### **BOATING ACCIDENT REPORT DATABASE (BARD) PROGRAM**

The States and the Coast Guard continue to build upon their success in the electronic transmission and management of boating accident report data. Using the Boating Accident Report Database (BARD) Program, States have an efficient means by which to manage and analyze their own accident data. The timely and accurate submission of accident data via electronic means also improves the Coast Guard's ability to analyze and publish meaningful national accident statistics.

### **USE OF THE STATISTICS**

Users of the statistics in this report need to be aware of the following facts that may affect results of analyses of non-fatal accidents:

1. The Recreational Boat Casualty Reporting System does not include every accident involving a recreational vessel. Some accidents are not in the system because they are not required to be reported. Many more accidents

are not reported because of ignorance of the law and difficulty in enforcing the law. We believe that only a small fraction of all non-fatal boating accidents occurring in the United States are reported to the Coast Guard, State or local law enforcement agencies. However, we believe that nearly all fatal recreational boating accidents are included in these statistics. Overall, the more serious the accident, the more frequent the reporting.

2. Federal regulations do not require the reporting of accidents on private waters, where States have no jurisdiction, or on State waters in Alaska. 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. The reporting rates of subgroups of accidents, such as those involving personal watercraft, propeller strikes, collisions, or whitewater, probably differ greatly depending upon unspecified variables.

4. Fluctuations from year to year in non-fatal accident statistics may be caused by factors other than the change in the total number of recreational boating accidents. A seemingly small change in the low reporting rate may cause a relatively large change in the statistics.

### **CASES EXCLUDED FROM THE REPORT**

This report does not include the following:

1. Accidents involving only slight injury which did not require medical treatment beyond first aid;
2. Accidents involving property damage of not more than \$500;
3. Accidents which were not caused or contributed to by a vessel, its equipment, or its appendages;
4. Accidents in which the boat was used solely as a platform for other activities, such as swimming or skin diving. Such cases are not included because the victims freely left the safety of their boat. However, if a victim is struck by their boat or another one, the accident is included because it involves a boat as the instrument striking the person.

### **FATALITY RATE**

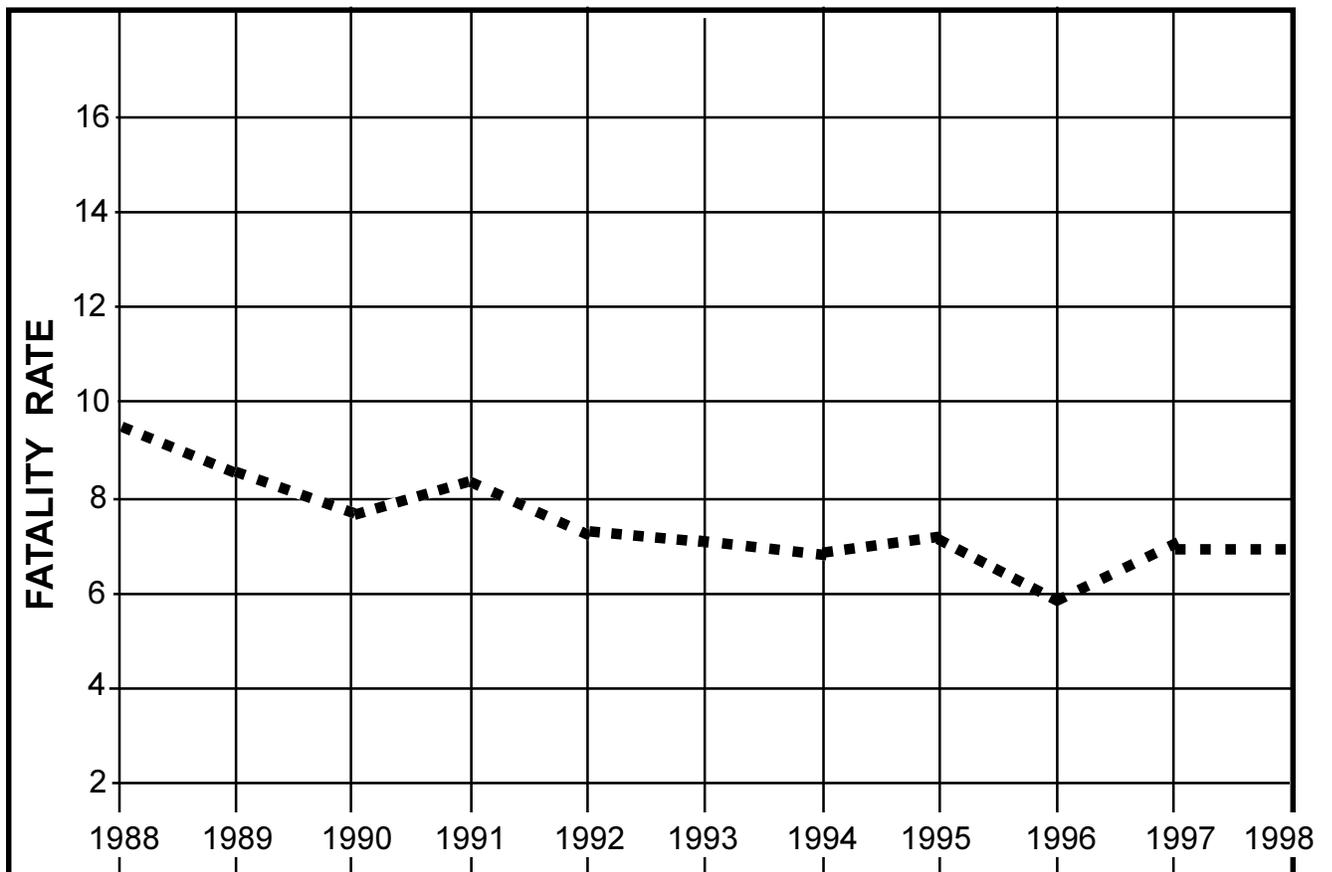
Historically, one indicator of safety in recreational boating is the fatality rate, e.g., the number of reported fatalities as compared to the number of numbered recreational boats. The numbered boat population is based on the annual Report of Certificates of Number Issued to Boats, each State and jurisdiction forwards to the Coast Guard. The report also provides statistics on numbered boats by length, hull material, and type of propulsion.

While a comparison between the 815 fatalities and the 12,565,930 numbered boats in 1998 for all States and jurisdictions allows one to estimate a national boating fatality rate, there are some serious limitations to this methodology. One is that fatality rate comparisons between States are invalid because of differences in the scope of each State's boat numbering system (see page 21). Another limitation is that fatalities occur on boats which are not numbered, and therefore not included in the boat numbering statistics. Users should be aware of these limitations when working with the fatality rate. A more reliable estimate of the fatality rate for each State or jurisdiction can be found by comparing fatalities occurring only on specific categories of numbered boats.

The graph on page three represents the fatality rate for 1998.

YEAR	FATALITIES	NUMBER OF NUMBERED BOATS	FATALITIES PER 100,000 NUMBERED BOATS
1988	946	10,362,613	9.1
1989	896	10,777,370	8.3
1990	865	10,996,253	7.8
1991	924	11,068,440	8.3
1992	816	11,132,386	7.3
1993	800	11,282,736	7.1
1994	784	11,429,585	6.9
1995	829	11,734,710	7.1
1996	709	11,877,938	5.9
1997	821	12,312,982	6.7
1998	815	12,565,930	6.5

### NUMBER OF FATALITIES PER 100,000 NUMBERED BOATS



# **EXECUTIVE SUMMARY BOATING STATISTICS - 1998**

## **Boating Accidents at a Glance**

The Coast Guard received reports for a total of 8,061 recreational boating accidents in 1998; the most ever reported. The casualty data for 1998 showed 815 fatalities and a record high number of 4,612 injuries (page 24).

## **Life Jackets & Risk of Dying in an Accident**

Five hundred and seventy-four (574) boaters drowned in 1998 (page 38). Life jackets could have saved the lives of approximately 509 boaters who drowned. In 1998, approximately eight out of every 10 victims in fatal boating accidents were not wearing life jackets. Boaters continue to be at a greater risk of dying when involved in an accident during the fall and winter months than in the summer. Besides the colder weather and water, there are fewer boaters and patrol officers in the area to rescue boaters in distress. When waters are below 60 degrees Fahrenheit, hypothermia can set in quickly. Those who hunt and fish from boats, especially in colder weather, need to dress for possible immersion and wear their life jackets (pages 17 and 36). Boaters in larger bodies of water should also take advantage of using available distress alerting and position indicating technologies to improve their chances of survival if a mishap occurs.

## **Fatalities by Known Boat Length and Owner Status**

Eighty-five (85) percent of fatalities occurred on boats less than 26 feet in length (pages 12 and 37). Seventy-two (72) percent of those victims drowned (page 12). Specifically, 366 fatalities occurred on boats less than 16 feet in length and 328 occurred on boats 16 to less than 26 feet in length. Approximately 40 percent of all boats in reported accidents were operated by individuals who were not the owners of the boat (page 37).

## **Alcohol Involvement in Boating Accidents**

Alcohol involvement in reported accidents accounted for 27 percent of all boating fatalities (page 31). A Coast Guard study estimates that boat operators with a blood alcohol concentration above .10 percent are estimated to be more than 10 times as likely to be killed in a boating accident than boat operators with zero blood alcohol concentration.

## **Fatalities by Known Boat Operator Education**

Eighty-eight (88) percent of all boating fatalities occurred on boats where the operator had not completed a boating safety education course (page 15).

# EXECUTIVE SUMMARY BOATING STATISTICS - 1998

## Accident Causes

Approximately 73 percent of all reported accidents involve operator controllable factors. The remaining 27 percent involve boat or environmental factors. The primary causes of accidents are operator inattention, careless/reckless operation, operator inexperience, operating at an unsafe speed, and no proper lookout (page 16).

## Types of Boating Accidents

“Capsizings” and “Falls Overboard” accounted for 477 fatalities, more than half of all boating fatalities. Eight out of every 10 of those victims drowned (page 28). “Collision with Another Vessel” was the most reported type of accident (pages 24). These accidents resulted in 1,540 injuries and accounted for 8.2 million dollars in property damage.

## Age of Boating Fatality Victims

Eighteen (18) children age 12 and under lost their lives while boating in 1998 (page 13). The number of children killed in boating accidents each year continues along a downward trend. Accident data suggest State laws that require young boaters to wear their life jackets save the lives of many children.

## Types of Injuries

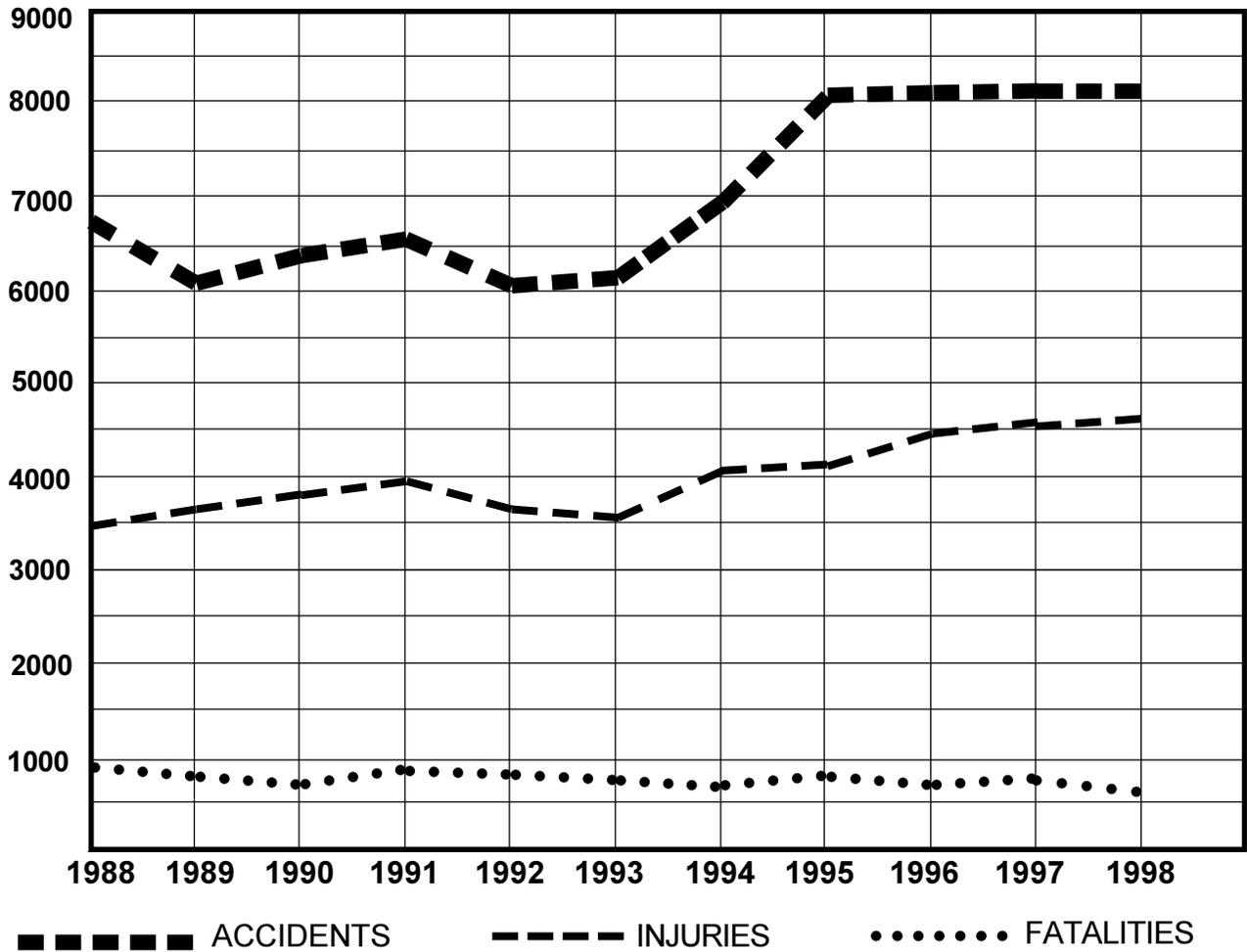
One-third of all reported injury victims were admitted to a hospital for medical treatment. The most frequently reported types of injuries suffered by boaters were lacerations, broken bones, and contusions (page 19).

## Numbered Recreational Boats

States and jurisdictions numbered a total of 12,565,930 recreational boats (pages 20-22). The following is a breakdown of the numbered motorboats by length:

<b>BOAT LENGTH</b>	<b>PERCENTAGE OF NUMBERED MOTORBOATS</b>
Less than 16' .....	46.8
16' to less than 26' .....	49.1
26' to less than 40' .....	3.6
40' and greater .....	.5

### BOATING ACCIDENTS AT A GLANCE



YEAR	FATALITIES	INJURIES	ACCIDENTS
1988	946	3,476	6,718
1989	896	3,635	6,063
1990	865	3,822	6,411
1991	924	3,967	6,573
1992	816	3,683	6,048
1993	800	3,559	6,335
1994	784	4,084	6,906
1995	829	4,141	8,019
1996	709	4,442	8,026
1997	821	4,555	8,047
1998	815	4,612	8,061

## REPORTABLE RECREATIONAL BOATING ACCIDENTS

Subpart C of Section 173 of Title 33, Code of Federal Regulations -- Casualty and Accident Reporting, applies to vessels that are used by their operators for recreational purposes, or that are required to be numbered (including those documented for pleasure), except for those vessels required by law to have a Certificate of Inspection. A casualty or accident report must be submitted to the reporting authority if an occurrence involving these vessels or their equipment results in one or more of the following:

- a. A person dies;
- b. A person is injured and requires medical treatment beyond first aid (i.e. treatment at a medical facility or by a physician other than at the accident scene);
- c. Damage to the vessel and other property totals more than \$500.00, or there is a complete loss of the vessel; or
- d. A person disappears from the vessel under circumstances that indicate death or injury.

The following are examples of accidents that **fall within the reporting criteria**, and that might have been prevented or their effects mitigated by specific components of a boating safety program (i.e. by boating courses, public information campaigns, law enforcement, development and enforcement of boat construction or equipment standards, etc.):

- a. A fire, explosion, sinking or other occurrence involving a vessel, if the vessel, its installed or associated equipment or appendages failed, malfunctioned, or otherwise caused or contributed to the accident or casualty. (A vessel could be docked, moored, or anchored.)
- b. A person is burned, or otherwise injured or dies from exposure or immersion which is the result of an accident involving the vessel where the vessel or its equipment or appendages contributed to the accident or casualty.
- c. A person dies, is injured, or property damage exceeding \$500.00 results from any occurrence or incident that was caused by careless or improper use of the vessel.
- d. An oar or other piece of essential gear associated with propulsion of the vessel is lost from a vessel and a person is injured, drowns or otherwise dies in an attempt to retrieve the lost item.
- e. A person dies having jumped from, or swimming around a vessel that is improperly connected to shore power and resultant stray electrical current enters the water causing electrocution of the victim.

## NON-REPORTABLE RECREATIONAL BOATING ACCIDENTS

The following are examples of occurrences directly or indirectly involving a vessel that are generally considered to be outside the scope of a boating safety program and, therefore, are **non-reportable** as boating accidents. While they may or may not be reported in a State, these accidents are not included in Boating Statistics (COMDTPUB P16754) published annually by the U.S. Coast Guard.

- a. A person dies from self-inflicted wounds, ingestion of barbituates or poison, or from gunshot wounds or other assault by another person or persons while aboard a vessel.
- b. A person dies primarily from natural causes while aboard a vessel; boat operation activities do not contribute.
- c. A person drowns in swimming to retrieve a vessel that is adrift from its mooring or dock, having departed from a position of inherent safety such as a shore or pier.
- d. A person drowns while swimming from a vessel for pleasure and the vessel does not contribute to the drowning; it is a platform only.
- e. A person drowns after falling from a raft that is moored or anchored for use as a swimming platform or other purpose.
- f. A person dies or is injured away from the water while preparing a boat for launching. (If in the act of launching into a body of water, it is a reportable boating accident).
- g. Damage, injury or death results from a fire on shore or a pier that spreads to a vessel or vessels.
- h. A person drowns or is injured while surfing. (A surfboard is not a vessel).
- i. A person dies in an "ice boat" accident. (An ice boat is not considered to be a vessel).
- j. A fatality or injury occurs to an operator or a crewmember while participating in an organized and sanctioned race, or warm-up or in a boat uniquely designed for racing.
- k. Damage, injury or death on a docked or moored vessel resulting from storms.
- l. Damage, injury or death on a docked or moored vessel resulting from unusual tidal, sea or swell conditions.
- m. Damage to a docked or moored vessel due to theft or any vandalism.
- n. Deaths, injury or damage on a docked or moored or anchored non-propelled houseboat or other vessel used primarily as a permanent residence.

THE OPERATOR/OWNER OF A VESSEL USED FOR RECREATIONAL PURPOSES IS REQUIRED TO FILE A REPORT IN WRITING WHENEVER AN ACCIDENT RESULTS IN: LOSS OF LIFE OR DISAPPEARANCE FROM A VESSEL; AN INJURY WHICH REQUIRES MEDICAL TREATMENT BEYOND FIRST AID; OR PROPERTY DAMAGE IN EXCESS OF \$500 OR COMPLETE LOSS OF THE VESSEL. REPORTS IN DEATH AND INJURY CASES MUST BE SUBMITTED WITHIN 48 HOURS. REPORTS IN OTHER CASES MUST BE SUBMITTED WITHIN 10 DAYS. REPORTS MUST BE SUBMITTED TO THE REPORTING AUTHORITY IN THE STATE WHERE THE ACCIDENT OCCURRED. THIS FORM IS PROVIDED TO ASSIST THE OPERATOR IN FILING THE REQUIRED WRITTEN REPORT.

**COMPLETE ALL BLOCKS (INDICATE THOSE NOT APPLICABLE BY "NA")**

**ACCIDENT DATA**

DATE OF ACCIDENT	TIME	AM PM	NAME OF BODY OF WATER	LOCATION (GIVE LOCATION PRECISELY)
------------------	------	----------	-----------------------	------------------------------------

NUMBER OF VESSELS INVOLVED	NEAREST CITY OR TOWN	COUNTY	STATE	ZIP CODE
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WEATHER (CHECK ALL APPLICABLE) <input type="checkbox"/> CLEAR <input type="checkbox"/> RAIN <input type="checkbox"/> CLOUDY <input type="checkbox"/> SNOW <input type="checkbox"/> FOG <input type="checkbox"/> HAZY	WATER CONDITIONS <input type="checkbox"/> CALM (WAVES LESS THAN 6") <input type="checkbox"/> CHOPPY (WAVES 6" TO 2') <input type="checkbox"/> ROUGH (WAVES 2' TO 6') <input type="checkbox"/> VERY ROUGH (GREATER THAN 6') <input type="checkbox"/> STRONG CURRENT	TEMPERATURE (ESTIMATE) AIR _____ °F WATER _____ °F	WIND <input type="checkbox"/> NONE <input type="checkbox"/> LIGHT (0-6 MPH) <input type="checkbox"/> MODERATE (7-14 MPH) <input type="checkbox"/> STRONG (15-25 MPH) <input type="checkbox"/> STORM (OVER 25 MPH)	VISIBILITY DAY    NIGHT <input type="checkbox"/> GOOD <input type="checkbox"/> <input type="checkbox"/> FAIR <input type="checkbox"/> <input type="checkbox"/> POOR <input type="checkbox"/>
---	---	--	--	--

NAME OF OPERATOR	OPERATOR ADDRESS
------------------	------------------

OPERATOR TELEPHONE NUMBER ( )	DATE OF BIRTH MO    DAY    YR	OPERATOR'S EXPERIENCE <input type="checkbox"/> NONE <input type="checkbox"/> UNDER 100 HOURS <input type="checkbox"/> ≥ 100 HOURS	INSTRUCTION IN BOATING SAFETY <input type="checkbox"/> STATE COURSE <input type="checkbox"/> U.S. POWER SQUADRON <input type="checkbox"/> USCG AUXILIARY <input type="checkbox"/> AMERICAN RED CROSS <input type="checkbox"/> NONE
<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE			

NAME OF OWNER	OWNER ADDRESS
---------------	---------------

OWNER TELEPHONE NUMBER ( )	NUMBER OF PEOPLE ON BOARD	NUMBER OF PEOPLE BEING TOWED	RENTED BOAT? <input type="checkbox"/> YES <input type="checkbox"/> NO
----------------------------	---------------------------	------------------------------	--

**BOAT NO. 1 (THIS VESSEL)**

BOAT REGISTRATION OR DOCUMENTATION NUMBER	STATE	HULL IDENTIFICATION NUMBER	BOAT NAME
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BOAT MANUFACTURER	LENGTH	MODEL	YEAR BUILT
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TYPE OF BOAT <input type="checkbox"/> OPEN MOTORBOAT <input type="checkbox"/> CABIN MOTORBOAT <input type="checkbox"/> AUXILIARY SAIL <input type="checkbox"/> SAIL (ONLY) <input type="checkbox"/> ROWBOAT <input type="checkbox"/> CANOE/KAYAK <input type="checkbox"/> PERSONAL WATERCRAFT <input type="checkbox"/> PONTOON BOAT <input type="checkbox"/> HOUSEBOAT <input type="checkbox"/> OTHER (SPECIFY)	HULL MATERIAL <input type="checkbox"/> WOOD <input type="checkbox"/> ALUMINUM <input type="checkbox"/> STEEL <input type="checkbox"/> FIBERGLASS <input type="checkbox"/> RUBBER/VINYL/CANVAS <input type="checkbox"/> RIGID HULL INFLATABLE <input type="checkbox"/> OTHER (SPECIFY)	ENGINE <input type="checkbox"/> OUTBOARD <input type="checkbox"/> INBOARD <input type="checkbox"/> INBOARD-STERNDRIVE (I/O) <input type="checkbox"/> AIRBOAT	PROPULSION <input type="checkbox"/> PROPELLER <input type="checkbox"/> WATER JET <input type="checkbox"/> AIR THRUST <input type="checkbox"/> MANUAL <input type="checkbox"/> SAIL	PERSONAL FLOTATION DEVICES (PFDS): WAS BOAT ADEQUATELY EQUIPPED WITH COAST GUARD APPROVED PFDS? <input type="checkbox"/> YES <input type="checkbox"/> NO WERE PFDS ACCESSIBLE? <input type="checkbox"/> YES <input type="checkbox"/> NO
		FUEL <input type="checkbox"/> GASOLINE <input type="checkbox"/> DIESEL <input type="checkbox"/> ELECTRIC	NUMBER OF ENGINES  TOTAL HORSEPOWER	FIRE EXTINGUISHERS ON BOARD? <input type="checkbox"/> YES <input type="checkbox"/> NO USED? <input type="checkbox"/> YES <input type="checkbox"/> NO

OPERATION AT TIME OF ACCIDENT (CHECK ALL APPLICABLE) <input type="checkbox"/> CRUISING <input type="checkbox"/> CHANGING DIRECTION <input type="checkbox"/> CHANGING SPEED <input type="checkbox"/> DRIFTING <input type="checkbox"/> TOWING <input type="checkbox"/> BEING TOWED <input type="checkbox"/> ROWING/PADDLING <input type="checkbox"/> SAILING <input type="checkbox"/> LAUNCHING <input type="checkbox"/> DOCKING/UNDOCKING <input type="checkbox"/> AT ANCHOR <input type="checkbox"/> TIED TO DOCK/MOORED <input type="checkbox"/> OTHER (SPECIFY)	ACTIVITY AT TIME OF ACCIDENT (CHECK ANY IF APPLICABLE) <input type="checkbox"/> FISHING <input type="checkbox"/> TOURNAMENT <input type="checkbox"/> HUNTING <input type="checkbox"/> SWIMMING/DIVING <input type="checkbox"/> MAKING REPAIRS <input type="checkbox"/> WATERSKIING/TUBING/ETC. <input type="checkbox"/> RACING <input type="checkbox"/> WHITEWATER SPORTS <input type="checkbox"/> FUELING <input type="checkbox"/> STARTING ENGINE <input type="checkbox"/> NON-RECREATIONAL <input type="checkbox"/> OTHER (SPECIFY)	TYPE OF ACCIDENT <input type="checkbox"/> GROUNDING <input type="checkbox"/> CAPSIZING <input type="checkbox"/> FLOODING/SWAMPING <input type="checkbox"/> SINKING <input type="checkbox"/> FIRE OR EXPLOSION (FUEL) <input type="checkbox"/> FIRE OR EXPLOSION (OTHER) <input type="checkbox"/> SKIER MISHAP <input type="checkbox"/> COLLISION WITH VESSEL <input type="checkbox"/> COLLISION WITH FIXED OBJECT <input type="checkbox"/> COLLISION WITH FLOATING OBJ. <input type="checkbox"/> FALLS OVERBOARD <input type="checkbox"/> FALLS IN BOAT <input type="checkbox"/> STRUCK BY BOAT <input type="checkbox"/> STRUCK BY MOTOR/PROPELLER <input type="checkbox"/> STRUCK SUBMERGED OBJECT <input type="checkbox"/> OTHER (SPECIFY)	(CHECK ALL APPLICABLE) <input type="checkbox"/> WEATHER <input type="checkbox"/> EXCESSIVE SPEED <input type="checkbox"/> IMPROPER LOOKOUT <input type="checkbox"/> RESTRICTED VISION <input type="checkbox"/> OVERLOADING <input type="checkbox"/> IMPROPER LOADING <input type="checkbox"/> HAZARDOUS WATERS <input type="checkbox"/> ALCOHOL USE <input type="checkbox"/> DRUG USE <input type="checkbox"/> HULL FAILURE <input type="checkbox"/> MACHINERY FAILURE <input type="checkbox"/> EQUIPMENT FAILURE <input type="checkbox"/> OPERATOR INEXPERIENCE <input type="checkbox"/> OPERATOR INATTENTION <input type="checkbox"/> CONGESTED WATERS <input type="checkbox"/> PASSENGER/SKIER BEHAVIOR <input type="checkbox"/> DAM/LOCK <input type="checkbox"/> OTHER (SPECIFY)
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ESTIMATED SPEED	<input type="checkbox"/> NONE <input type="checkbox"/> UNDER 10 MPH <input type="checkbox"/> 10 - 20 MPH <input type="checkbox"/> 21 - 40 MPH <input type="checkbox"/> OVER 40 MPH	<input type="checkbox"/> HIT AND RUN	
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**DECEASED (IF MORE THAN 2 FATALITIES, ATTACH ADDITIONAL FORMS)**

NAME OF VICTIM		ADDRESS OF VICTIM		WAS PFD WORN? <input type="checkbox"/> YES <input type="checkbox"/> NO
DATE OF BIRTH	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	DEATH CAUSED BY	<input type="checkbox"/> DROWNING <input type="checkbox"/> OTHER	<input type="checkbox"/> DISAPPEARANCE
NAME OF VICTIM		ADDRESS OF VICTIM		WAS PFD WORN? <input type="checkbox"/> YES <input type="checkbox"/> NO
DATE OF BIRTH	<input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	DEATH CAUSED BY	<input type="checkbox"/> DROWNING <input type="checkbox"/> OTHER	<input type="checkbox"/> DISAPPEARANCE

**INJURED (IF MORE THAN 2 INJURIES, ATTACH ADDITIONAL FORMS)**

NAME OF VICTIM		ADDRESS OF VICTIM	
DATE OF BIRTH	MEDICAL TREATMENT BEYOND FIRST AID? ADMITTED TO HOSPITAL?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO	DESCRIBE INJURY
WAS PFD WORN?	<input type="checkbox"/> YES <input type="checkbox"/> NO	PRIOR TO ACCIDENT?	<input type="checkbox"/> YES <input type="checkbox"/> NO AS A RESULT OF ACCIDENT? <input type="checkbox"/> YES <input type="checkbox"/> NO
WAS IT INFLATABLE?	<input type="checkbox"/> YES <input type="checkbox"/> NO		
NAME OF VICTIM		ADDRESS OF VICTIM	
DATE OF BIRTH	MEDICAL TREATMENT BEYOND FIRST AID? ADMITTED TO HOSPITAL?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO	DESCRIBE INJURY
WAS PFD WORN?	<input type="checkbox"/> YES <input type="checkbox"/> NO	PRIOR TO ACCIDENT?	<input type="checkbox"/> YES <input type="checkbox"/> NO AS A RESULT OF ACCIDENT? <input type="checkbox"/> YES <input type="checkbox"/> NO
WAS IT INFLATABLE?	<input type="checkbox"/> YES <input type="checkbox"/> NO		

**OTHER PEOPLE ABOARD THIS BOAT (IF MORE THAN 2 PEOPLE, ATTACH ADDITIONAL FORMS)**

NAME		ADDRESS	
DATE OF BIRTH	WAS PFD WORN? AS A RESULT OF ACCIDENT	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO	PRIOR TO ACCIDENT? <input type="checkbox"/> YES <input type="checkbox"/> NO WAS IT INFLATABLE? <input type="checkbox"/> YES <input type="checkbox"/> NO
NAME		ADDRESS	
DATE OF BIRTH	WAS PFD WORN? AS A RESULT OF ACCIDENT	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO	PRIOR TO ACCIDENT? <input type="checkbox"/> YES <input type="checkbox"/> NO WAS IT INFLATABLE? <input type="checkbox"/> YES <input type="checkbox"/> NO

**BOAT NO. 2 (IF MORE THAN 2 VESSELS, ATTACH ADDITIONAL IDENTIFYING INFORMATION)**

NAME OF OPERATOR	OPERATOR ADDRESS
OPERATOR TELEPHONE NUMBER ( )	BOAT REGISTRATION OR DOCUMENTATION NUMBER STATE
NAME OF OWNER	OWNER ADDRESS
OWNER TELEPHONE NUMBER ( )	

**PROPERTY DAMAGE**

ESTIMATED AMOUNT: THIS BOAT AND CONTENTS: \$	OTHER BOAT(S) AND CONTENTS: \$	OTHER PROPERTY: \$
DESCRIBE PROPERTY DAMAGED		

**WITNESSES NOT ON THIS VESSEL**

NAME	ADDRESS	TELEPHONE NUMBER ( )
NAME	ADDRESS	TELEPHONE NUMBER ( )

**PERSON COMPLETING REPORT**

NAME	ADDRESS	TELEPHONE NUMBER ( )
SIGNATURE	QUALIFICATION <input type="checkbox"/> OPERATOR <input type="checkbox"/> OWNER <input type="checkbox"/> INVESTIGATOR <input type="checkbox"/> OTHER	DATE SUBMITTED

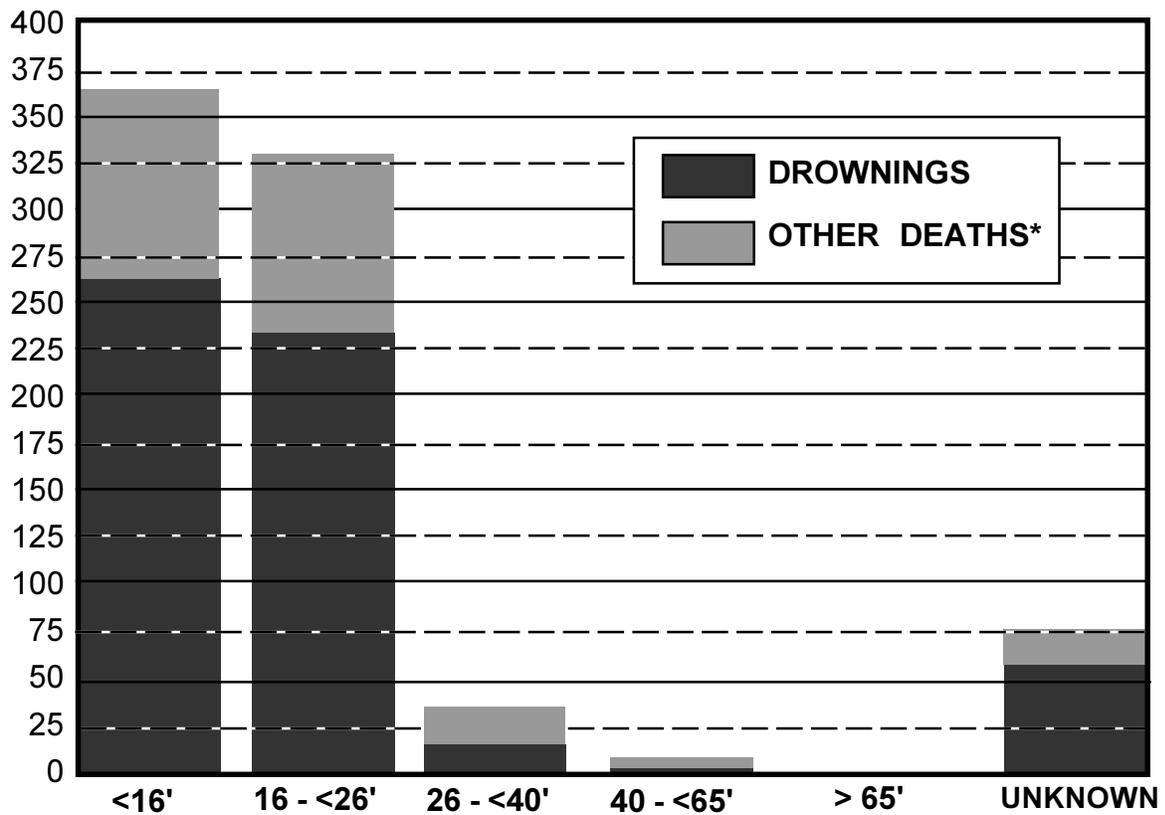
**FOR AGENCY USE ONLY**

CAUSES BASED ON (CHECK ONE): <input type="checkbox"/> THIS REPORT <input type="checkbox"/> INVESTIGATION <input type="checkbox"/> INVESTIGATION AND THIS REPORT <input type="checkbox"/> OTHER	
NAME OF REVIEWING OFFICE	DATE RECEIVED
RECREATIONAL <input type="checkbox"/> COMMERCIAL <input type="checkbox"/>	NON-REPORTABLE <input type="checkbox"/>
PRIMARY CAUSE	SECONDARY CAUSE

**ACCIDENT DESCRIPTION**

DESCRIBE WHAT HAPPENED (SEQUENCE OF EVENTS. INCLUDE FAILURE OF EQUIPMENT. INCLUDE A DIAGRAM IF NEEDED. CONTINUE ON ADDITIONAL SHEETS IF NECESSARY. INCLUDE ANY INFORMATION REGARDING THE INVOLVEMENT OF ALCOHOL AN/OR DRUGS IN CAUSING OR CONTRIBUTING TO THE ACCIDENT. INCLUDE ANY DESCRIPTIVE INFORMATION ABOUT THE USE OF PFD'S.)

### NUMBER OF FATALITIES BY BOAT LENGTH - 1998

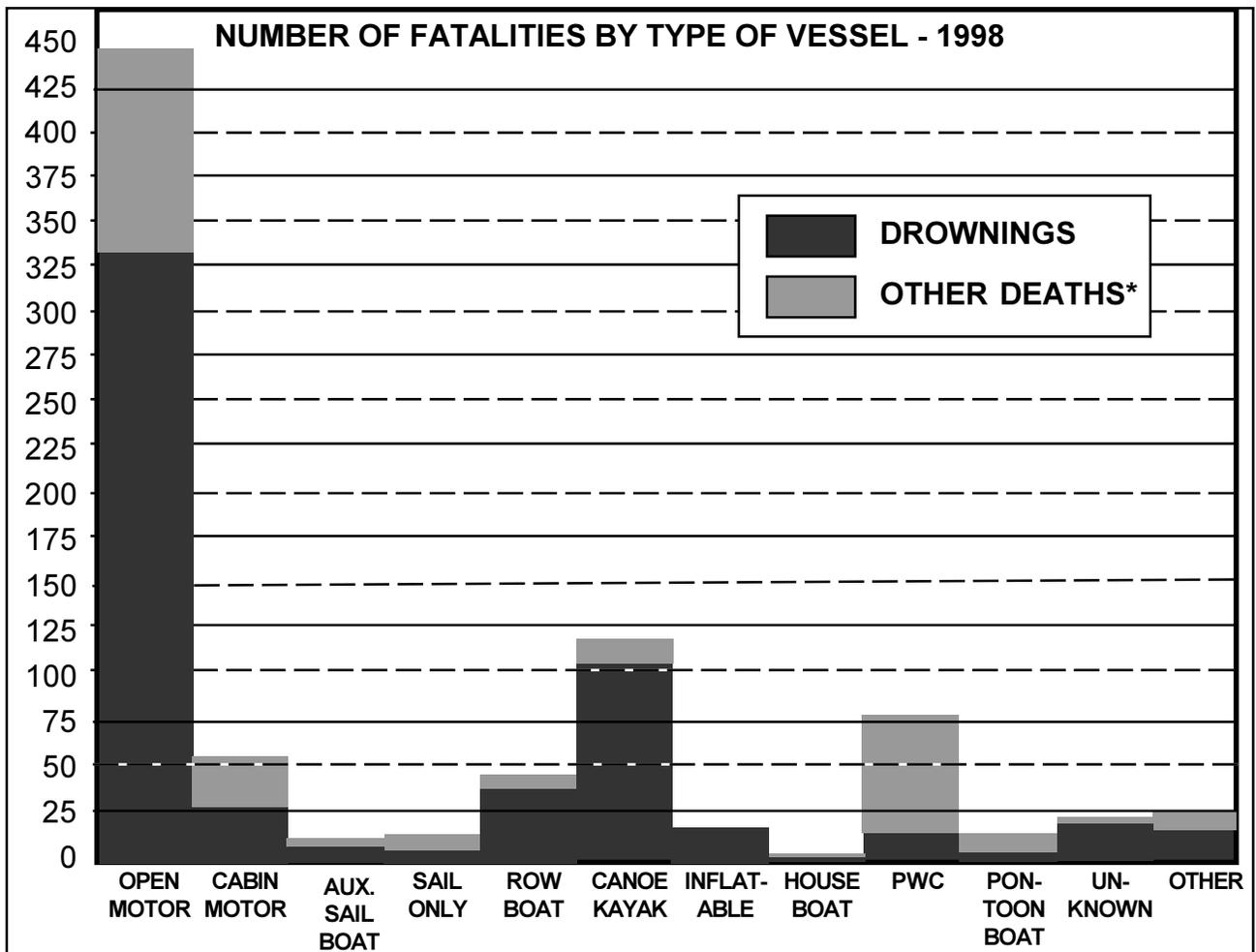


LENGTH	DROWNINGS	OTHER DEATHS*	TOTAL
Less than 16 feet	266	100	366
16 feet to less than 26 feet	232	96	328
26 feet to less than 40 feet	15	22	37
40 feet to 65 feet	2	6	8
More than 65 feet	0	1	1
Unknown	59	16	75
<b>Total</b>	<b>574</b>	<b>241</b>	<b>815</b>

\*Other deaths denotes types of fatalities other than drownings.

## AGE OF FATALITY VICTIMS - 1998

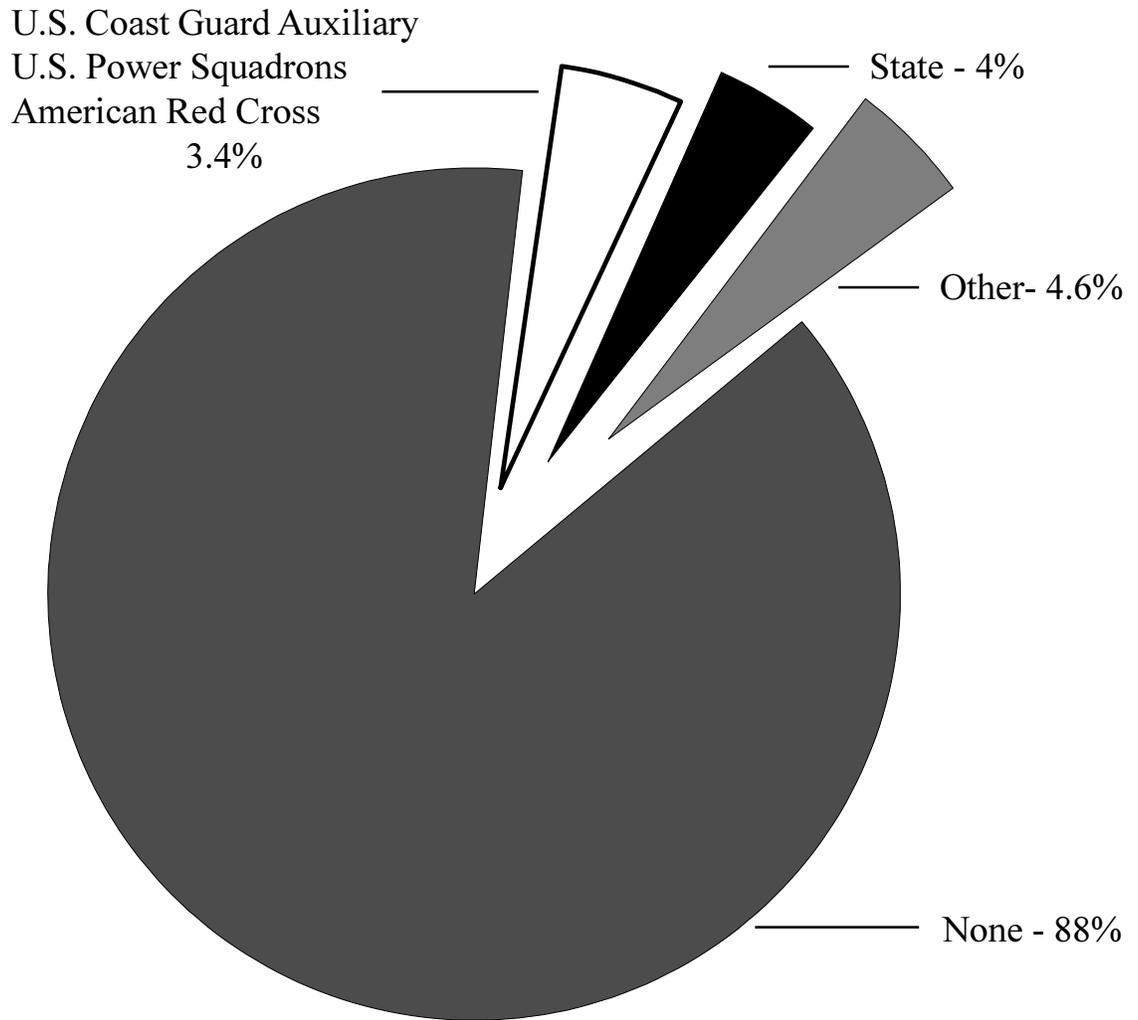
Age of Victim	Number of Drownings	Number of Other Deaths	Total Fatalities
4 .....	1 .....	2 .....	3
5 .....	0 .....	1 .....	1
6 .....	2 .....	0 .....	2
7 .....	2 .....	0 .....	2
8 .....	2 .....	2 .....	4
10 .....	3 .....	1 .....	4
11 .....	0 .....	1 .....	1
12 .....	1 .....	0 .....	1
13 .....	3 .....	4 .....	7
14 .....	3 .....	3 .....	6
15 .....	6 .....	5 .....	11
16 .....	4 .....	4 .....	8
17 .....	11 .....	7 .....	18
18 .....	11 .....	6 .....	17
19 .....	10 .....	1 .....	11
<b>0 - 19 .....</b>	<b>59 .....</b>	<b>37 .....</b>	<b>96</b>
<b>20 - 29 .....</b>	<b>115 .....</b>	<b>45 .....</b>	<b>160</b>
<b>30 - 39 .....</b>	<b>107 .....</b>	<b>55 .....</b>	<b>162</b>
<b>40 - 49 .....</b>	<b>125 .....</b>	<b>37 .....</b>	<b>162</b>
<b>50 - 59 .....</b>	<b>67 .....</b>	<b>31 .....</b>	<b>98</b>
<b>60 - 69 .....</b>	<b>51 .....</b>	<b>17 .....</b>	<b>68</b>
<b>70 - 79 .....</b>	<b>32 .....</b>	<b>11 .....</b>	<b>43</b>
<b>older than 80 .....</b>	<b>7 .....</b>	<b>1 .....</b>	<b>8</b>
<b>Unknown .....</b>	<b>11 .....</b>	<b>7 .....</b>	<b>18</b>
<b>TOTAL .....</b>	<b>574 .....</b>	<b>241 .....</b>	<b>815</b>



BOAT TYPE	DROWNINGS	OTHER DEATHS (not drownings)	TOTAL
Open Motorboat	330	111	441
Cabin Motorboat	26	27	53
Auxiliary Sail	6	1	7
Sail Only	4	4	8
Rowboat	41	3	44
Canoe/Kayak	105	10	115
Inflatable	19	0	19
Houseboat	0	2	2
Unknown	16	6	22
Personal Watercraft	13	65	78
Pontoon Boat	4	8	12
Other*	10	4	14
<b>Total</b>	<b>574</b>	<b>241</b>	<b>815</b>

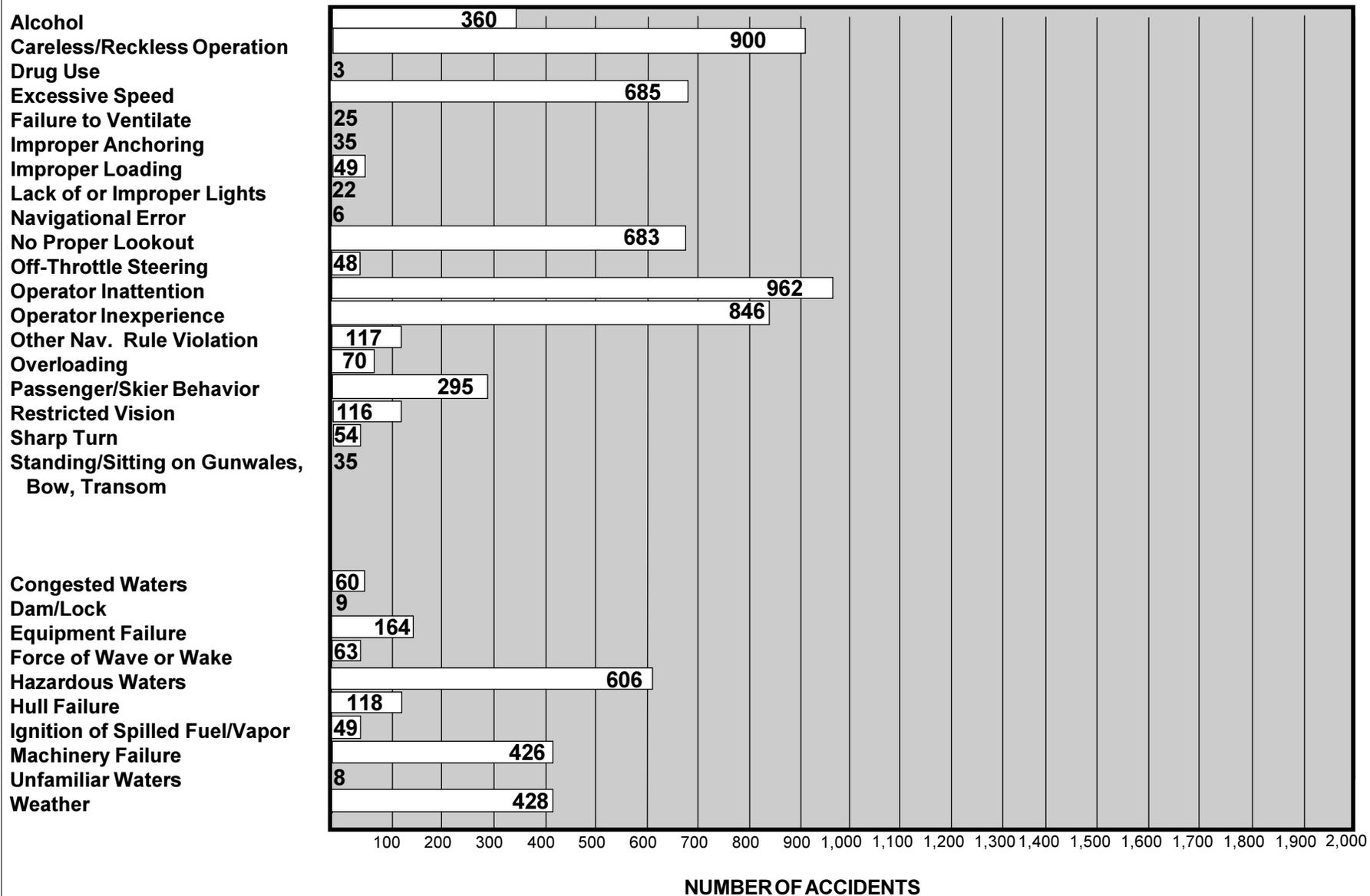
\*Other includes five drownings and three other deaths involving airboats and one other death involving a mini jet boat.

**PERCENT OF FATALITIES BY KNOWN BOAT OPERATOR INSTRUCTION- 1998**

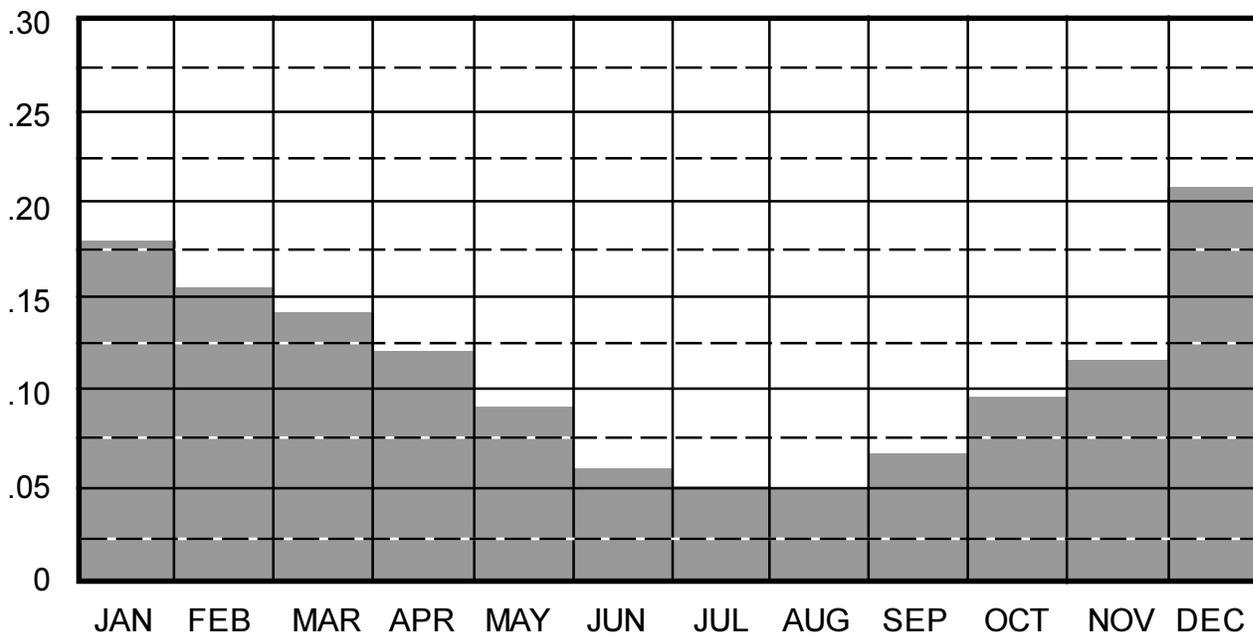


<b>TYPE OF BOATING INSTRUCTION</b>	<b>FATALITIES</b>
U.S. Coast Guard Auxiliary .....	16
U.S. Power Squadrons	
American Red Cross	
State .....	19
Other .....	22
None .....	412

**KNOWN ACCIDENT CONTRIBUTING FACTORS DIVIDED BY THOSE WHICH ARE  
OPERATOR CONTROLLABLE AND VESSEL/ENVIRONMENTAL**

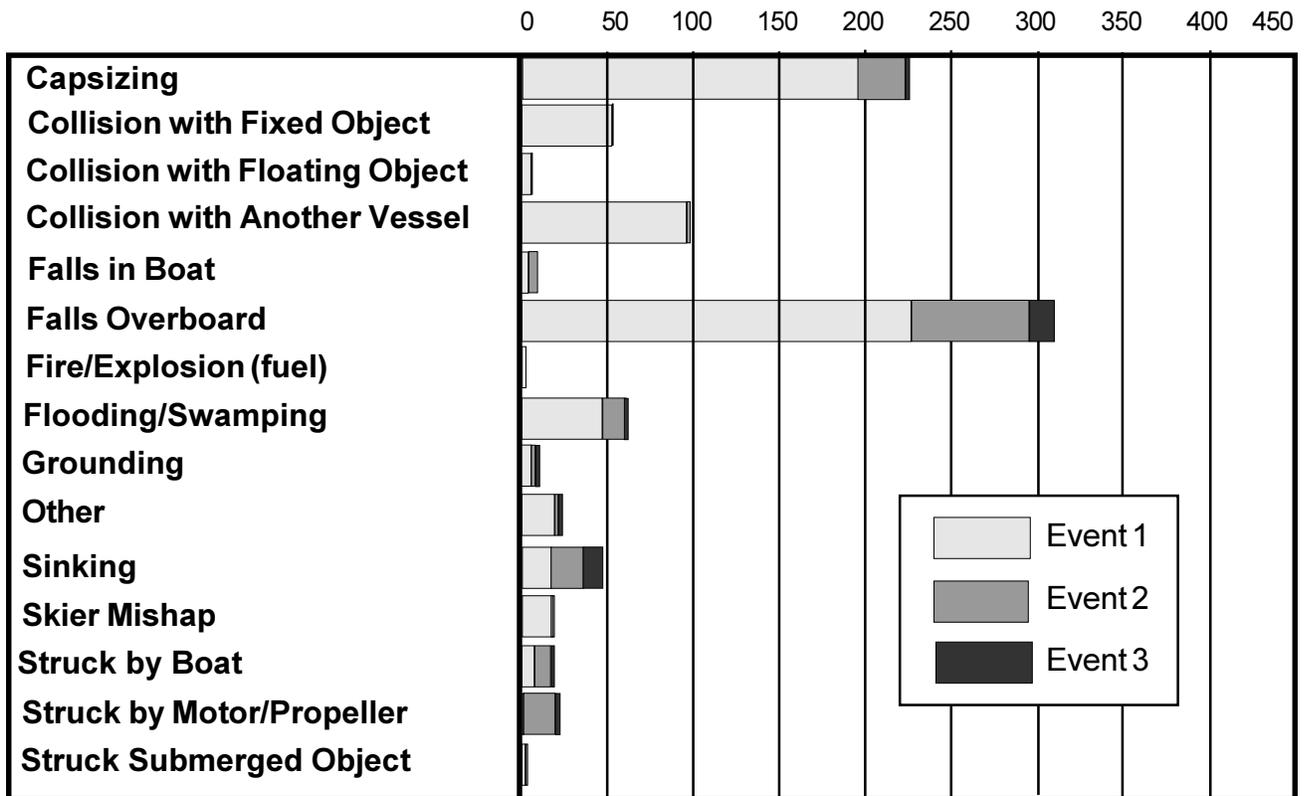


### RISK OF DYING IN AN ACCIDENT BY MONTH - 1998



MONTH	VESSELS IN ACCIDENTS	FATALITIES	FATALITIES PER VESSEL	PERCENTAGE OF TOTAL FATALITIES
January	178	32	.18	4
February	165	26	.16	3
March	318	46	.14	6
April	546	63	.12	8
May	1,653	126	.08	15
June	1,731	109	.06	13
July	2,730	125	.05	15
August	2,165	107	.05	13
September	1,119	83	.07	10
October	349	31	.09	4
November	246	33	.13	4
December	154	33	.21	4
Unknown	14	1	.07	0
<b>Total</b>	<b>11,368</b>	<b>815</b>		<b>100</b>

## EVENTS IN FATAL BOATING ACCIDENT SEQUENCES - 1998



### Events in Fatal Boating Accident Sequences

Published statistics on the types of boating accidents refer only to the first event occurring in the accident sequence. However, many accidents involve more than one event. For example, 31 fatal accidents involve a person being struck by motor/propeller, either as the first, second or third event in the accident sequence.

	Event No. 1	Event No. 2	Event No. 3	Total
Capsizing .....	194	26	4	224
Collision with Fixed Object .....	53	2	0	55
Collision with Floating Object .....	10	0	0	10
Collision with Another Vessel .....	95	1	0	96
Falls In Boat .....	7	3	0	10
Falls Overboard .....	222	72	15	309
Fire/Explosion (fuel) .....	4	0	0	4
Fire/Explosion (other than fuel) .....	1	0	0	1
Flooding/Swamping .....	47	10	1	58
Grounding .....	8	2	1	11
Other .....	17	2	2	21
Sinking .....	17	23	8	48
Skier Mishap .....	17	2	0	19
Struck by Boat .....	7	10	2	19
Struck by Motor/Propeller .....	1	23	7	31
Struck Submerged Object .....	4	2	0	6

### TYPE OF INJURY BY TYPE OF VESSEL - 1998

	Number of Injuries	Airboat	Aux. Sailboat	Cabin Motorboat	Canoe/Kayak	Houseboat	Inflatable	Jet Boat	Mini Jet Boat	Open Motorboat	Other	Personal Watercraft	Pontoon Boat	Rowboat	Sailboat	Unknown
		<b>Total</b>	<b>4,612</b>	<b>32</b>	<b>56</b>	<b>405</b>	<b>80</b>	<b>17</b>	<b>33</b>	<b>5</b>	<b>10</b>	<b>1,973</b>	<b>22</b>	<b>1,743</b>	<b>73</b>	<b>39</b>
<b>Type of Injury</b>																
Amputation	44	1	0	6	1	0	0	0	0	21	1	13	1	0	0	0
Back Injury	283	4	1	25	1	2	2	1	1	135	0	102	3	0	2	4
Broken Bones	793	5	6	53	1	1	6	0	2	278	2	411	8	0	5	15
Burns	107	5	8	32	0	4	0	1	0	45	0	9	0	0	1	2
Chest Injury	9	0	0	3	1	0	0	0	0	4	0	1	0	0	0	0
Contusion	581	11	3	43	3	3	6	1	0	219	6	262	6	4	1	13
Dislocation	92	0	2	9	2	0	1	0	0	49	0	27	0	0	2	0
Head Injury	465	1	5	31	3	0	3	0	4	198	3	194	9	1	4	9
Hypothermia	221	0	10	16	43	0	6	0	0	111	2	2	0	24	2	5
Internal Injuries	197	0	2	20	3	1	1	0	1	66	0	93	2	2	1	5
Laceration	977	4	7	89	6	2	5	1	0	464	7	332	31	5	8	16
Neck Injury	96	0	2	11	0	0	1	1	0	52	1	23	2	0	0	3
Other	45	0	0	2	0	0	0	0	0	21	0	17	3	0	0	2
Shock	16	0	0	1	3	0	0	0	0	7	0	4	0	0	1	0
Spinal Injury	45	1	2	4	0	1	0	0	0	19	0	16	1	0	0	1
Sprain/Strain	141	0	2	7	3	2	0	0	1	71	0	52	0	1	0	2
Teeth	27	0	1	2	1	0	0	0	0	11	0	12	0	0	0	0
Unknown	473	0	5	51	9	1	2	0	1	202	0	173	7	2	7	13

### HOSPITAL ADMISSIONS BY TYPE OF VESSEL - 1998

	Number of Injuries	Admitted to Hospital	Not Admitted
<b>TOTALS</b>	<b>4,612</b>	<b>1,457</b>	<b>3,155</b>
Airboat	32	4	28
Auxiliary Sail	56	14	42
Cabin Motorboat	405	106	299
Canoe/Kayak	80	34	46
Houseboat	17	4	13
Inflatable	33	11	22
Jet Boat	5	2	3
Mini Jet Boat	10	0	10
Open Motorboat	1,973	647	1,326
Other	22	9	13
Personal Watercraft	1,743	561	1,182
Pontoon Boat	73	24	49
Rowboat	39	12	27
Sail (only)	34	10	24
Unknown	90	19	71

## BOAT NUMBERING

Chapter 123 of Title 46, United States Code requires each undocumented vessel equipped with propulsion machinery to be numbered in the State in which it is principally operated. The law allows the States and other jurisdictions to create their own numbering systems as long as they meet or exceed Federal requirements. At the end of 1998, only Alaska lacked its own approved numbering system. In that jurisdiction, the Coast Guard performs the numbering function and requires only undocumented vessels equipped with propulsion machinery used on waters subject to the jurisdiction of the United States to be numbered. Many States require the numbering of non-powered boats, such as sailboats. A list of the numbering requirements of the States is found on page 21.

The statistics on pages 21 and 22 are derived from reports of the actual counts of valid boat numbers that have been issued by States and other jurisdictions. Their accuracy is affected by several factors, including compliance of the boat owners with numbering and registration laws. The numbering requirements for each jurisdiction are given so that comparisons may be made. Estimates are provided for non-reporting jurisdictions based on the growth in numbering as reported in the past.

### TOTAL NUMBER OF NUMBERED BOATS 1977- 1998

<b>1998</b>	<b>12,565,930</b>
<b>1997</b>	<b>12,312,982</b>
<b>1996</b>	<b>11,877,938</b>
<b>1995</b>	<b>11,734,710</b>
<b>1994</b>	<b>11,429,585</b>
<b>1993</b>	<b>11,282,736</b>
<b>1992</b>	<b>11,132,386</b>
<b>1991</b>	<b>11,068,440</b>
<b>1990</b>	<b>10,996,253</b>
<b>1989</b>	<b>10,777,370</b>
<b>1988</b>	<b>10,362,613</b>
<b>1987</b>	<b>9,963,696</b>
<b>1986</b>	<b>9,876,197</b>
<b>1985</b>	<b>9,589,483</b>
<b>1984</b>	<b>9,420,011</b>
<b>1983</b>	<b>9,165,094</b>
<b>1982</b>	<b>9,073,972</b>
<b>1981</b>	<b>8,905,097</b>
<b>1980</b>	<b>8,577,857</b>
<b>1979</b>	<b>8,278,723</b>
<b>1978</b>	<b>8,035,905</b>
<b>1977</b>	<b>7,975,587</b>

## NUMBERING DATA BY STATE

		TOTAL BOATS NUMBERED		SCOPE OF CURRENT BOAT NUMBERING SYSTEM <small>(Does not include sailboards which are numbered in some States)</small>
		1998	1997	
TOTAL	RANK	12,565,930	12,312,982	
Alabama	18	265,592	264,436	All motorboats, sailboats and rental boats
Alaska <sup>1</sup>	49	26,230	25,819	All watercraft except sailboats; unpowered boats if requested
Arizona	29	158,726	155,010	All watercraft, except inflatables 12 feet in length or less
Arkansas	24	210,599	172,930	All motorboats and sailboats
California	2	895,132	894,347	All motorboats; sailboats over 8 feet in length
Colorado	34	98,190	95,924	All watercraft powered by motor or sail
Connecticut	32	102,630	98,494	All motorboats; sailboats 19.5 feet or more in length
Delaware	46	44,458	43,461	All motorboats
Dist. of Col.	54	1,811	6,621	All watercraft
Florida	3	805,581	796,662	All motorboats
Georgia	16	303,129	309,606	All motorboats; sailboats 12 feet or more in length
Hawaii	51	15,290	14,704	All motorboats; sailboats over 8 feet in length
Idaho	36	83,501	80,945	All motorboats and sailboats
Illinois	9	396,945	368,513	All watercraft, except non-profit org. owned canoes and kayaks
Indiana	22	214,474	210,007	All motorboats
Iowa	23	211,972	219,888	All watercraft with exceptions <sup>2</sup>
Kansas	33	101,306	100,641	All motorboats and sailboats
Kentucky	28	162,780	160,075	All motorboats, except electric motors 1 hp or less
Louisiana	15	305,386	310,281	All motorboats; sailboats more than 12 feet in length
Maine	31	117,706	124,122	All motorboats
Maryland	27	192,946	189,052	All motorboats
Massachusetts	30	146,957	141,129	All motorboats
Michigan	1	980,378	960,822	All watercraft with exceptions <sup>3</sup>
Minnesota	4	780,097	768,555	All motorboats with exceptions <sup>4</sup>
Mississippi	17	270,868	252,767	All motorboats and sailboats
Missouri	13	326,879	321,707	All motorboats; sailboats over 12 feet in length
Montana	43	49,336	47,102	All motorboats; sailboats 12 feet or more in length
Nebraska	38	72,649	72,333	All watercraft
Nevada	41	59,404	58,053	All motorboats
New Hampshire	35	92,168	95,179	All motorboats; sailboats 20 feet or more in length
New Jersey	25	197,672	196,584	All watercraft with exceptions <sup>5</sup>
New Mexico	39	72,456	64,613	All motorboats and sailboats
New York	7	514,749	512,430	All motorboats
North Carolina	12	334,862	328,594	All motorboats; sailboats more than 14 feet in length
North Dakota	44	48,523	43,865	All motorboats
Ohio	8	407,686	399,888	All watercraft
Oklahoma	21	227,826	223,979	All watercraft
Oregon	26	197,634	197,315	All motorboats; sailboats 12 feet or more in length
Pennsylvania	11	348,727	340,394	All watercraft
Rhode Island	48	35,378	33,950	All watercraft except rowboats, canoes, kayaks & ferries
South Carolina	10	394,842	376,201	All watercraft
South Dakota	45	47,465	46,113	All motorboats; all other boats over 12 feet in length
Tennessee	14	312,030	306,215	All motorboats and sailboats
Texas	5	625,754	615,438	All motorboats and sailboats 14 feet or more in length
Utah	37	76,346	74,228	All motorboats and sailboats
Vermont	47	38,105	38,369	All motorboats
Virginia	20	232,409	229,629	All motorboats
Washington	19	249,968	245,962	All motorboats with exceptions <sup>6</sup> ; sailboats ≥16 ft in length
West Virginia	40	67,382	57,135	All motorboats
Wisconsin	6	559,321	543,034	All motorboats; sailboats over 12 feet in length
Wyoming	50	25,828	25,304	All motorboats and sailboats
Guam	53	3,000	3,000	All watercraft (estimated)
Puerto Rico	42	49,595	47,034	All motorboats; vessels adapted to hold a motor
Virgin Islands	52	4,106	3,535	All watercraft
Am. Samoa	56	145	126	All watercraft
N. Marianas	55	1,001	862	All motorboats

<sup>1</sup> Alaska did not have an approved numbering system as of December 31, 1998. The Coast Guard is the numbering authority.

<sup>2</sup> Iowa excludes inflatables under 7 feet in length and canoes/kayaks under 13 feet in length.

<sup>3</sup> Michigan excludes manually propelled boats 16 feet or less in length, and nonmotorized rafts, canoes, and kayaks.

<sup>4</sup> Minnesota excludes nonmotorized boats nine feet or less in length, duckboats during duckhunting season, and riceboats during harvest season and seaplanes.

<sup>5</sup> New Jersey excludes non-motorized boats 12 feet or less in length and canoes, kayaks, racing shells and rowing sculls.

<sup>6</sup> Washington excludes motorboats < 16 feet with motors 10 horsepower or less used solely on exclusive State waters

## BOAT NUMBERING DATA BY STATE AND TYPE OF PROPULSION<sup>1</sup>

1998	POWERED					NON-POWERED			OTHER	TOTAL
	INBOARD	OUTBOARD	STERNDRIE	AUXILIARY SAIL	PWC	ROWBOAT	CANOE OR KAYAK	SAIL ONLY	OTHER BOATS	TOTAL
<b>TOTALS</b>	1,444,683	8,179,704	1,422,842	175,904	414,228	82,611	271,179	138,009	436,770	12,565,930
Alabama	18,038	206,399	21,168	1,154	14,035	624	320	2,968	886	265,592
Alaska	2,405	16,881	3,893	510	421	0	0	66	2,054	26,230
Arizona	42,029	67,919	0	242	26,068	18	81	1,028	21,341	158,726
Arkansas	30,609	157,289	0	0	19,555	0	0	375	2,771	210,599
California	65,813	357,214	174,783	23,107	0	9,282	7,429	38,491	219,013	895,132
Colorado	6,011	53,982	19,047	0	14,011	0	0	4,402	737	98,190
Connecticut	14,461	65,329	15,313	6,560	0	452	0	248	267	102,630
Delaware	8,501	29,551	5,883	0	0	0	0	0	523	44,458
Dist. of Col.	530	595	344	194	0	0	0	146	2	1,811
Florida	131,818	557,206	80,273	9,801	0	0	0	0	26,483	805,581
Georgia	14,973	209,489	32,873	0	25,814	0	0	4,759	15,221	303,129
Hawaii	938	8,704	3,329	1,249	1,070	0	0	0	0	15,290
Idaho	20,313	43,886	14,469	872	0	0	0	844	3,117	83,501
Illinois	24,248	240,049	51,818	3,060	14,693	15,662	26,030	9,423	11,962	396,945
Indiana	22,416	145,864	35,175	667	0	0	0	1,290	9,062	214,474
Iowa	18,061	136,787	21,972	455	0	1,073	22,292	4,937	6,395	211,972
Kansas	6,347	70,668	9,081	542	9,473	1,320	261	3,201	413	101,306
Kentucky	16,727	114,245	21,632	309	0	0	0	0	9,867	162,780
Louisiana	14,676	280,334	0	0	10,376	0	0	0	0	305,386
Maine	8,219	98,326	11,161	0	0	0	0	0	0	117,706
Maryland	28,498	112,620	35,787	12,061	0	0	0	456	3,524	192,946
Massachusetts	9,972	88,007	15,502	0	6,547	0	0	0	26,929	146,957
Michigan	276,426	617,187	32,595	50,230	0	0	0	0	3,940	980,378
Minnesota	18,495	485,689	46,971	2,989	30,067	13,810	154,231	17,223	10,622	780,097
Mississippi	18,538	234,935	15,575	1,820	0	0	0	0	0	270,868
Missouri	10,480	234,011	46,417	150	32,258	572	579	2,384	28	326,879
Montana	15,907	32,794	0	123	0	168	20	324	0	49,336
Nebraska	4,187	49,928	9,053	84	7,241	361	453	436	906	72,649
Nevada	2,812	23,038	18,036	577	14,168	319	0	184	270	59,404
New Hampshire	14,520	54,228	11,031	2,372	5,557	0	0	4,460	0	92,168
New Jersey	15,254	107,021	32,899	4,151	18,583	5,234	0	7,568	6,962	197,672
New Mexico	8,672	40,362	12,864	309	8,051	0	0	2,198	0	72,456
New York	89,343	287,145	123,546	6,320	0	0	0	0	8,395	514,749
North Carolina	13,728	235,987	42,926	3,793	29,672	0	0	1,896	6,860	334,862
North Dakota	5,433	36,840	5,056	129	0	0	597	74	394	48,523
Ohio	39,202	193,990	64,311	2,275	36,657	11,471	39,062	11,443	9,275	407,686
Oklahoma	33,367	172,207	21,030	1,222	0	0	0	0	0	227,826
Oregon	61,372	128,549	0	5,223	0	0	0	0	2,490	197,634
Pennsylvania	37,280	247,759	12,988	357	23,340	2,372	19,412	1,808	3,411	348,727
Rhode Island	5,818	22,489	5,092	1,979	0	0	0	0	0	35,378
South Carolina	13,793	297,852	35,006	7,496	17,288	19,650	233	1,672	1,852	394,842
South Dakota	1,584	34,020	5,525	244	2,768	0	0	0	3,324	47,465
Tennessee	42,210	234,261	30,116	5,443	0	0	0	0	0	312,030
Texas	101,440	429,865	84,512	0	0	0	0	1,493	8,444	625,754
Utah	0	25,050	39,955	202	9,917	0	0	1,222	0	76,346
Vermont	8,774	29,109	0	0	0	0	0	0	222	38,105
Virginia	5,771	154,804	41,520	4,844	19,526	0	0	169	5,775	232,409
Washington	0	150,522	88,953	10,493	0	0	0	0	0	249,968
West Virginia	6,715	41,588	15,996	0	3,083	0	0	0	0	67,382
Wisconsin	66,268	482,724	0	0	0	0	0	10,329	0	559,321
Wyoming	14,319	3,472	5,709	0	2,020	0	117	191	0	25,828
Guam	0	0	0	0	0	0	0	0	3,000	3,000
Puerto Rico	6,892	28,589	1,490	965	11,659	0	0	0	0	49,595
Virgin Islands	349	1,524	142	1,312	211	223	55	289	1	4,106
Amer. Samoa	22	54	0	13	5	0	7	12	32	145
No. Marianas	109	767	25	6	94	0	0	0	0	1,001

<sup>1</sup> The figures in this table are derived from reports from the States and jurisdictions. There are a total of 12,565,930 numbered recreational vessels. This table classifies numbered motorboats and numbered non-powered boats for each State and jurisdiction. Please note that the scope of the boat numbering system for each State and jurisdiction is not the same (page 21). This explains why some States report the number of non-powered vessels such as rowboats, canoes, and non-powered sailboats and others do not. Also notice that some States and jurisdictions report Personal Watercraft (PWC) as a separate vessel category and others report PWC as an inboard motorboat. An accurate figure on the number of PWC will be provided when all States and jurisdictions classify and report PWC as a separate vessel category.

**FIVE YEAR SUMMARY OF SELECTED ACCIDENT DATA BY STATE  
1994 - 1998**

	TOTAL NUMBER OF ACCIDENTS					FATAL ACCIDENTS					FATALITIES				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
<b>TOTALS</b>	<b>6,906</b>	<b>8,019</b>	<b>8,026</b>	<b>8,047</b>	<b>8,061</b>	<b>692</b>	<b>711</b>	<b>610</b>	<b>716</b>	<b>709</b>	<b>784</b>	<b>829</b>	<b>709</b>	<b>821</b>	<b>815</b>
Alabama	117	159	120	173	138	16	22	21	24	27	16	26	24	25	32
Alaska	29	24	91	90	99	12	12	13	19	24	18	18	14	23	38
Arizona	222	281	327	321	239	11	7	7	7	10	12	9	8	8	14
Arkansas	73	66	92	111	115	15	10	19	14	18	16	11	20	15	20
California	696	823	849	920	770	34	50	48	41	45	41	53	56	42	56
Colorado	59	78	77	66	91	2	10	10	5	9	2	11	12	6	9
Connecticut	54	65	52	70	63	4	2	5	5	6	4	2	6	5	8
Delaware	23	24	27	27	37	2	5	2	1	5	2	5	2	2	6
Dist. of Columbia	5	0	0	5	2	1	0	0	1	0	1	0	0	1	0
Florida	1,196	1,365	1,261	1,215	1,255	67	71	52	53	67	74	81	59	67	73
Georgia	104	87	98	147	155	25	15	16	24	15	27	16	17	27	16
Hawaii	25	27	18	23	39	4	5	2	3	4	5	7	2	3	4
Idaho	81	101	86	58	49	7	11	6	16	10	7	12	6	20	10
Illinois	149	164	156	145	159	17	15	22	13	16	18	16	27	14	19
Indiana	131	154	143	115	132	12	16	12	9	10	13	20	15	11	12
Iowa	69	65	66	93	82	8	8	8	5	3	9	8	10	5	4
Kansas	43	63	59	60	78	8	5	4	6	4	8	5	6	7	4
Kentucky	79	83	95	79	63	13	18	7	18	10	14	23	8	19	10
Louisiana	120	145	146	123	171	25	37	31	25	29	27	38	37	31	35
Maine	62	61	42	72	70	7	3	0	7	8	7	3	0	10	8
Maryland	243	205	197	223	215	22	12	16	6	9	24	14	19	6	11
Massachusetts	65	83	21	47	58	6	12	4	11	9	8	14	5	11	9
Michigan	269	395	478	354	451	35	22	19	22	21	39	29	20	22	25
Minnesota	162	151	138	178	165	17	20	12	16	13	20	20	12	21	13
Mississippi	43	65	98	71	74	10	10	9	15	11	11	10	13	19	11
Missouri	316	278	315	333	238	16	16	18	22	22	18	20	22	25	23
Montana	28	29	32	23	14	8	6	11	9	6	9	6	13	12	7
Nebraska	29	32	40	40	53	3	1	5	4	4	3	1	6	4	4
Nevada	212	233	193	153	118	6	5	8	6	7	9	6	9	6	7
New Hampshire	44	67	37	81	74	7	4	4	6	6	7	4	4	6	8
New Jersey	167	278	260	237	225	11	7	17	6	10	14	7	17	6	10
New Mexico	26	45	72	56	65	2	3	2	1	1	3	4	3	2	1
New York	221	292	325	322	326	24	25	15	32	26	30	31	23	37	28
North Carolina	173	220	190	198	223	21	22	18	21	30	21	25	20	25	34
North Dakota	18	22	16	13	25	1	2	3	2	2	1	3	3	3	4
Ohio	176	291	242	197	228	20	10	9	12	17	23	13	10	15	18
Oklahoma	83	77	117	133	105	8	11	9	9	11	8	12	11	9	12
Oregon	118	133	106	108	120	9	15	8	15	16	11	18	8	19	20
Pennsylvania	109	95	117	119	122	14	8	7	17	10	15	10	7	18	10
Rhode Island	33	28	36	18	33	4	2	1	2	3	4	2	1	2	5
South Carolina	109	148	115	125	165	27	23	17	22	25	31	27	20	30	28
South Dakota	27	22	20	29	18	0	2	1	0	1	0	2	1	0	1
Tennessee	99	46	154	119	166	11	6	26	14	9	11	7	31	16	11
Texas	163	164	160	215	228	45	52	24	53	39	55	65	28	61	46
Utah	112	177	170	77	156	6	15	3	8	10	8	18	4	8	10
Vermont	11	3	7	10	7	2	3	1	0	4	2	3	1	0	4
Virginia	128	160	176	222	182	13	19	10	24	17	13	22	13	27	20
Washington	150	156	131	169	144	28	31	21	29	20	34	37	25	30	22
West Virginia	25	27	18	20	18	5	4	6	4	6	5	8	7	4	8
Wisconsin	173	231	225	211	205	19	14	18	24	15	22	16	20	28	15
Wyoming	3	21	9	11	12	0	4	1	2	1	0	6	0	2	1
Guam	2	7	0	7	2	0	0	0	0	0	0	0	0	0	0
Puerto Rico	31	3	2	0	9	1	3	2	0	3	1	5	3	0	3
Virgin Islands	1	0	4	3	5	1	0	0	3	0	3	0	0	3	0
Am. Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
N. Marianas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Offshore\*  
 Atlantic Ocean ..... 2 ..... 2 ..... 3  
 Gulf of Mexico ..... 1 ..... 1 ..... 3  
 Pacific Ocean ..... 2 ..... 2 ..... 2

\*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 miles offshore in the Gulf of Mexico.

## FIVE YEAR SUMMARY OF BOATING ACCIDENTS

1998 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>8,061</b>	<b>815</b>	<b>4,612</b>	<b>\$31,027,432</b>
Grounding	472	11	251	\$2,540,774
Capsizing	569	243	269	\$1,239,643
Swamping/Flooding	439	60	80	\$1,777,874
Sinking	243	20	22	\$2,524,419
Fire or Explosion of Fuel	202	4	90	\$3,878,520
Other Fire or Explosion	110	1	19	\$3,660,569
Collision with Another Vessel	2,837	112	1,540	\$8,207,209
Collision with Fixed Object	833	60	508	\$4,584,977
Collision with Floating Object	172	11	77	\$572,357
Falls Overboard	662	234	455	\$332,558
Falls Within Boat	343	7	345	\$69,776
Struck by Boat	142	7	123	\$114,728
Struck by Motor/Propeller	101	1	98	\$32,114
Struck Submerged Object	165	4	37	\$889,784
Skier Mishap	497	17	496	\$5,155
Other Casualty	216	18	179	\$508,742
Unknown	58	5	23	\$88,234

1997 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>8,047</b>	<b>821</b>	<b>4,555</b>	<b>\$29,003,707</b>
Grounding	383	15	217	\$1,295,354
Capsizing	496	245	226	\$949,662
Swamping/Flooding	323	43	67	\$1,476,229
Sinking	177	23	35	\$746,198
Fire or Explosion of Fuel	160	0	76	\$3,355,236
Other Fire or Explosion	78	2	8	\$3,893,501
Collision with Another Vessel	2,581	80	1,309	\$7,333,307
Collision with Fixed Object	623	56	329	\$2,228,682
Collision with Floating Object	206	14	80	\$868,888
Falls Overboard	669	243	465	\$278,311
Falls Within Boat	319	6	332	\$33,255
Struck by Boat	133	8	123	\$42,220
Struck by Motor or Propeller	123	1	126	\$4,321
Struck Submerged Object	135	6	29	\$763,749
Skier Mishap	445	8	444	\$10,665
Other Casualty; Unknown	1,196	71	689	\$5,724,129

1996 TYPE OF ACCIDENT	TOTAL	FATALITIES	INJURIES	PROPERTY DAMAGE
<b>TOTAL</b>	<b>8,026</b>	<b>709</b>	<b>4,442</b>	<b>\$23,164,623</b>
Grounding	363	10	147	\$1,553,309
Capsizing	471	207	217	\$1,059,708
Swamping/Flooding	295	42	87	\$879,148
Sinking	202	27	29	\$1,010,774
Fire or Explosion of Fuel	190	0	97	\$1,360,368
Other Fire or Explosion	72	3	10	\$1,553,505
Collision with Another Vessel	2,639	77	1,283	\$6,612,180
Collision with Fixed Object	580	32	339	\$1,963,508
Collision with Floating Object	203	14	73	\$550,918
Falls Overboard	648	180	480	\$295,829
Falls Within Boat	316	4	333	\$81,501
Struck by Boat	147	11	125	\$71,443
Struck by Motor/Propeller	119	5	114	\$10,120
Skier Mishap	378	3	372	\$15,576
Struck Submerged Object	110	0	16	\$420,862
Other Casualty; Unknown	1,293	94	720	\$5,725,876

## FIVE YEAR SUMMARY OF BOATING ACCIDENTS

<b>1995 TYPE OF ACCIDENT</b>				
	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
<b>TOTAL</b>	<b>8,019</b>	<b>829</b>	<b>4,141</b>	<b>\$30,318,659</b>
Grounding	360	5	137	\$1,350,234
Capsizing	520	255	216	\$908,625
Swamping/Flooding	236	51	63	\$547,032
Sinking	210	20	38	\$1,097,335
Fire or Explosion of Fuel	204	1	81	\$12,216,140
Other Fire or Explosion	42	2	12	\$968,470
Collision with Another Vessel	2,687	86	1,255	\$6,879,951
Collision with Fixed Object	584	59	281	\$1,764,552
Collision with Floating Object	201	5	68	\$472,660
Falls Overboard	660	215	455	\$135,593
Falls Within Boat	219	4	224	\$49,516
Struck by Boat	185	5	142	\$107,737
Struck by Motor/Propeller	117	2	109	\$19,600
Skier Mishap	346	10	328	\$9,577
Struck Submerged Object	100	2	12	\$373,891
Other Casualty, Unknown	1,345	107	720	\$3,417,747
<b>1994 TYPE OF ACCIDENT</b>				
	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
<b>TOTAL</b>	<b>6,906</b>	<b>784</b>	<b>4,084</b>	<b>\$25,190,200</b>
Grounding	329	15	152	\$3,475,100
Capsizing	433	219	216	\$1,555,900
Swamping/Flooding	374	73	82	\$1,554,100
Sinking	125	14	25	\$674,700
Fire or Explosion of fuel	171	2	82	\$2,556,200
Other Fire or Explosion	95	4	15	\$2,591,900
Collision with Another Vessel	2,685	91	1,590	\$7,859,200
Collision with Fixed Object	944	58	520	\$3,633,200
Collision with Floating Object	213	12	68	\$466,700
Falls Overboard	583	208	496	\$291,500
Falls Within Boat	230	2	245	\$68,100
Struck by Boat or Propeller	139	13	126	\$9,100
Fallen Skier	307	7	305	\$5,900
Other Casualty; Unknown	278	66	162	\$448,600
<b>1998</b>	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
	8,061	815	4,612	\$31,027,432
<b>1997</b>	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
	8,047	821	4,555	\$29,003,707
<b>1996</b>	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
	8,026	709	4,442	\$23,164,623
<b>1995</b>	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
	8,019	829	4,141	\$30,318,659
<b>1994</b>	<b>TOTAL</b>	<b>FATALITIES</b>	<b>INJURIES</b>	<b>PROPERTY DAMAGE</b>
	6,906	784	4,084	\$25,190,200

## ACCIDENT DATA BY STATE - 1998

	NUMBER OF ACCIDENTS			NO. OF PERSONS		PROP. DAMAGE	
*These accidents fall into one category only, with fatal being the highest priority, followed by non-fatal injury, followed by property damage. For example, if two vessels are in an accident resulting in a fatality and a non-fatal injury, the accident is counted as a fatal accident involving two vessels. If two vessels are in an accident resulting in a non-fatal injury and property damage, the accident is counted as a non-fatal injury accident involving two vessels.							
	TOTAL	FATAL	NON-FATAL INJURY	PROPERTY DAMAGE	KILLED	INJURED	PROPERTY DAMAGE
<b>TOTALS</b>	<b>8,061</b>	<b>709</b>	<b>3,516</b>	<b>3,836</b>	<b>815</b>	<b>4,612</b>	<b>\$31,027,432</b>
Alabama	138	27	62	49	32	84	\$949,423
Alaska	99	24	22	53	38	34	\$696,567
Arkansas	115	18	45	52	20	64	\$218,509
Arizona	239	10	127	102	14	154	\$527,228
California	770	45	332	393	56	412	\$2,308,501
Colorado	91	9	39	43	9	50	\$137,428
Connecticut	63	6	25	32	8	42	\$1,117,568
Delaware	37	5	17	15	6	26	\$296,328
District of Columbia	2	0	1	1	0	1	\$4,000
Florida	1,255	67	508	680	73	650	\$7,133,081
Georgia	155	15	64	76	16	81	\$356,349
Hawaii	39	4	15	20	4	17	\$460,267
Idaho	49	10	14	25	10	20	\$17,229
Illinois	159	16	65	78	19	118	\$484,375
Indiana	132	10	56	66	12	76	\$340,208
Iowa	82	3	36	43	4	49	\$165,070
Kansas	78	4	37	37	4	40	\$112,900
Kentucky	63	10	29	24	10	44	\$158,241
Louisiana	171	29	85	57	35	135	\$1,397,886
Maine	70	8	24	38	8	33	\$172,426
Maryland	215	9	95	111	11	127	\$711,314
Massachusetts	58	9	21	28	9	32	\$339,343
Michigan	451	21	241	189	25	280	\$864,227
Minnesota	165	13	95	57	13	126	\$1,305,375
Mississippi	74	11	41	22	11	46	\$70,454
Missouri	238	22	94	122	23	132	\$810,622
Montana	14	6	7	1	7	13	\$6,300
Nebraska	53	4	26	23	4	40	\$98,049
Nevada	118	7	49	62	7	61	\$835,267
New Hampshire	74	6	28	40	8	31	\$113,780
New Jersey	225	10	96	119	10	122	\$501,396
New Mexico	65	1	37	27	1	40	\$48,413
New York	326	26	138	162	28	180	\$1,309,833
North Carolina	223	30	104	89	34	139	\$603,955
North Dakota	25	2	11	12	4	13	\$62,828
Ohio	228	17	67	144	18	100	\$900,410
Oklahoma	105	11	49	45	12	71	\$465,162
Oregon	120	16	45	59	20	62	\$341,455
Pennsylvania	122	10	75	37	10	90	\$160,988
Rhode Island	33	3	15	15	5	19	\$84,775
South Carolina	165	25	75	65	28	102	\$335,018
South Dakota	18	1	3	14	1	3	\$75,500
Tennessee	166	9	62	95	11	83	\$597,898
Texas	228	39	84	105	46	100	\$685,488
Utah	156	10	74	72	10	91	\$462,916
Vermont	7	4	2	1	4	4	\$4,950
Virginia	182	17	103	62	20	158	\$501,015
Washington	144	20	49	75	22	62	\$418,373
West Virginia	18	6	7	5	8	9	\$20,144
Wisconsin	205	15	108	82	15	127	\$1,022,669
Wyoming	12	1	5	6	1	8	\$24,256
Guam	2	0	2	0	0	4	\$12,000
Puerto Rico	9	3	4	2	3	5	\$132,975
American Samoa	0	0	0	0	0	0	0
N. Marianas	0	0	0	0	0	0	0
Virgin Islands	5	0	1	4	0	1	\$34,201
Offshore*							
Atlantic Ocean	2	2	0	0	3	0	\$8,000
Gulf of Mexico	1	1	0	0	3	0	\$2,500
Pacific Ocean	2	2	0	0	2	1	\$2,000

\*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 miles offshore in the Gulf of Mexico.

## TYPES OF ACCIDENTS BY STATE - 1998

	NUMBER OF ACCIDENTS																VICTIMS					
	TOTAL ACCIDENTS* <small>*Historically reported as vessels involved</small>	CAPSIZING	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	COLLISION WITH ANOTHER VESSEL	FALLS WITHIN BOAT	FALLS OVERBOARD	FUEL	FIRE/EXPLOSION	FIRE/EXPL. OTHER	FLOODING <sup>1</sup>	GROUNDING	OTHER	SINKING	SKIER MISHAP	STRUCK BY BOAT	STRUCK BY MOTOR AND/OR PROPELLER	MERGED OBJECT	STRUCK SUB-	UNKNOWN	DROWNINGS	OTHER DEATHS
<b>TOTALS</b>	<b>8,061</b>	<b>569</b>	<b>833</b>	<b>172</b>	<b>2,837</b>	<b>343</b>	<b>662</b>	<b>202</b>	<b>110</b>	<b>439</b>	<b>472</b>	<b>216</b>	<b>243</b>	<b>497</b>	<b>142</b>	<b>101</b>	<b>165</b>	<b>58</b>	<b>574</b>	<b>241</b>	<b>4,612</b>	
Alabama	138	13	15	4	51	5	14	4	1	2	4	8	9	5	1	2	0	0	20	12	84	
Alaska	99	28	1	0	10	1	9	1	3	11	13	6	4	0	4	0	8	0	36	2	34	
Arizona	239	8	5	10	101	2	12	4	3	16	11	15	7	23	10	8	1	3	3	11	154	
Arkansas	115	2	19	4	50	0	14	2	0	5	2	2	4	7	2	1	0	1	12	8	64	
California	770	46	38	3	291	16	56	22	16	79	76	14	3	80	10	4	15	1	41	15	412	
Colorado	91	3	6	1	37	0	10	0	0	7	8	2	3	11	0	2	1	0	7	2	50	
Connecticut	63	4	5	3	20	3	2	3	1	2	1	2	3	4	3	2	5	0	6	2	42	
Delaware	37	2	11	0	8	1	5	1	0	3	1	3	1	1	0	0	0	0	0	6	26	
District of Columbia	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	
Florida	1255	54	219	1	402	118	73	43	22	99	74	16	18	29	35	9	24	19	40	33	650	
Georgia	155	22	9	0	54	7	15	3	2	4	5	2	7	20	0	0	5	0	14	2	81	
Hawaii	39	2	2	3	6	0	1	0	1	1	7	3	4	0	3	1	1	4	1	3	17	
Idaho	49	2	7	7	8	1	3	2	0	5	3	0	2	7	0	1	0	1	7	3	20	
Illinois	159	12	17	9	59	2	6	1	4	10	5	6	3	5	4	5	10	1	13	6	118	
Indiana	132	15	9	5	39	3	12	6	0	0	1	6	14	10	2	2	1	7	12	0	76	
Iowa	82	8	7	7	26	3	8	0	1	1	8	1	2	4	1	3	1	1	4	0	49	
Kansas	78	5	2	3	20	1	10	2	0	12	7	2	3	8	1	0	2	0	3	1	40	
Kentucky	63	4	1	2	29	2	6	3	1	0	2	3	1	0	4	3	1	1	7	3	44	
Louisiana	171	13	39	12	36	2	16	3	0	4	10	8	9	6	3	3	4	3	23	12	135	
Maine	70	6	6	1	21	1	8	1	4	0	7	0	8	5	0	0	2	0	8	0	33	
Maryland	215	21	21	3	62	13	19	7	8	4	8	15	12	7	9	3	3	0	8	3	127	
Massachusetts	58	7	5	1	28	1	4	2	0	2	0	3	1	1	2	0	0	1	8	1	32	
Michigan	451	26	38	10	161	22	54	7	4	4	22	29	24	28	2	19	0	1	22	3	280	
Minnesota	165	7	10	3	68	4	22	4	4	2	9	6	2	19	0	4	1	0	12	1	126	
Mississippi	74	3	9	1	30	1	14	1	0	1	1	1	3	4	1	0	4	0	10	1	46	
Missouri	238	17	27	8	85	12	18	5	9	17	14	1	1	9	2	6	7	0	20	3	132	
Montana	14	5	2	0	5	0	0	0	0	0	0	0	0	1	0	0	0	0	7	0	13	
Nebraska	53	3	2	0	29	0	4	2	0	2	1	1	1	7	1	0	0	0	0	4	40	
Nevada	118	4	2	1	48	3	8	2	2	10	15	3	7	10	3	0	0	0	2	5	61	
New Hampshire	74	7	4	0	32	4	6	1	1	1	2	4	2	4	1	0	4	1	7	1	31	
New Jersey	225	11	32	2	83	20	19	0	1	20	17	2	0	7	2	0	9	0	7	3	122	
New Mexico	65	10	7	1	18	1	7	0	0	4	2	1	5	8	0	1	0	0	1	0	40	
New York	326	30	24	6	116	26	29	9	3	14	22	3	5	12	2	1	24	0	18	10	180	
North Carolina	223	13	18	7	90	7	18	7	0	8	13	9	2	19	5	7	0	0	22	12	139	
North Dakota	25	3	3	0	11	2	1	0	0	1	0	1	0	2	0	1	0	0	2	2	13	
Ohio	228	17	25	8	62	9	15	10	5	25	10	6	6	9	2	0	19	0	13	5	100	
Oklahoma	105	5	12	1	43	3	11	6	0	0	4	1	12	4	2	1	0	0	8	4	71	
Oregon	120	9	26	2	39	2	8	1	1	11	4	4	2	9	1	1	0	0	17	3	62	
Pennsylvania	122	14	8	3	43	6	17	1	0	2	4	1	5	13	2	3	0	0	8	2	90	
Rhode Island	33	5	1	0	13	1	3	1	0	3	2	1	0	2	1	0	0	0	5	0	19	
South Carolina	165	10	22	8	59	8	12	5	1	9	12	2	6	9	0	1	1	0	23	5	102	
South Dakota	18	1	3	0	3	0	0	2	2	0	2	1	3	1	0	0	0	0	1	0	3	
Tennessee	166	7	11	9	74	2	10	8	0	4	9	3	8	8	13	0	0	0	9	2	83	
Texas	228	16	25	0	103	3	18	3	2	13	17	0	8	16	0	0	3	1	30	16	100	
Utah	156	13	13	4	63	2	7	5	1	3	16	5	10	6	3	1	0	4	4	6	91	
Vermont	7	3	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	2	4	0	4	
Virginia	182	25	35	5	42	9	16	3	0	3	11	4	6	19	0	4	0	0	14	6	158	
Washington	144	15	9	10	66	1	8	3	2	4	5	7	3	7	0	1	1	2	16	6	62	
West Virginia	18	4	1	0	5	0	1	0	1	2	0	1	1	2	0	0	0	0	3	5	9	
Wisconsin	205	6	17	4	77	13	29	4	1	6	3	2	1	29	3	0	8	2	8	7	127	
Wyoming	12	0	3	0	5	0	1	0	0	0	2	0	1	0	0	0	0	0	1	0	8	
Guam	2	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	
Puerto Rico	9	1	0	0	2	0	1	0	2	0	0	0	1	0	1	1	0	0	0	3	5	
Virgin Islands	5	0	0	0	2	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	1	
Atlantic Ocean	2	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	1	0	
Pacific Ocean	2	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2	0	1	
Gulf of Mexico	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	0	

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping.



### TYPES OF BOATING ACCIDENTS - 1998

	ACCIDENTS	VESSELS INVOLVED	DROWNING DEATHS	OTHER DEATHS	TOTAL FATALITIES
<b>TOTALS</b>	<b>8,061</b>	<b>11,368</b>	<b>574</b>	<b>241</b>	<b>815</b>
Grounding	472	495	1	10	11
Capsizing	569	591	216	27	243
Swamping/Flooding	439	459	57	3	60
Sinking	243	250	19	1	20
Fire/Explosion (fuel)	202	212	1	3	4
Fire/Explosion (other than fuel)	110	121	1	0	1
Collision with Another Vessel	2,837	5,641	16	96	112
Collision with Fixed Object	833	943	33	27	60
Collision with Floating Object	172	216	6	5	11
Struck Submerged Object	165	169	3	1	4
Skier Mishap	497	535	6	11	17
Falls Overboard	662	686	198	36	234
Falls Within Boat	343	364	5	2	7
Struck by Boat	142	220	0	7	7
Struck by Motor or Propeller	101	123	0	1	1
Other	216	259	8	10	18
Unknown	58	84	4	1	5

### TYPES OF ACCIDENTS BY TYPE OF VESSEL - 1998

	NUMBER OF VESSELS INVOLVED IN ACCIDENTS																VICTIMS				
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	COLLISION WITH ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	COLLISION WITH OBJECT	STRUCK SUBMERGED OBJECT	FALLS OVERBOARD	FALLS IN BOAT	STRUCK BY MOTOR OR PROPELLER	STRUCK BY BOAT	SKIER MISHAP	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	TOTAL DEATHS
<b>TOTALS</b>	<b>11,368</b>	<b>495</b>	<b>591</b>	<b>459</b>	<b>250</b>	<b>212</b>	<b>121</b>	<b>5,641</b>	<b>943</b>	<b>216</b>	<b>169</b>	<b>686</b>	<b>364</b>	<b>123</b>	<b>220</b>	<b>535</b>	<b>343</b>	<b>574</b>	<b>241</b>	<b>815</b>	<b>4,612</b>
Open motorboat	4,368	244	283	327	163	99	25	1,583	387	112	96	280	115	70	49	423	112	330	111	441	1,973
Cabin motorboat	1,477	136	26	67	47	73	61	614	187	38	46	34	45	14	18	14	57	26	27	53	405
Auxiliary Sail	381	25	14	13	6	3	9	217	51	1	6	6	9	1	5	0	15	6	1	7	56
Sail Only	131	5	22	6	0	1	3	62	12	1	0	8	3	0	3	0	5	4	4	8	34
Rowboat	82	0	36	4	6	0	0	14	6	1	0	9	1	1	0	0	4	41	3	44	39
Canoe/Kayak	167	0	115	8	1	0	0	7	10	0	1	16	1	0	2	0	6	105	10	115	80
Inflatable	50	0	18	1	1	0	1	6	6	0	0	8	6	0	0	1	2	19	0	19	33
Houseboat	147	2	3	3	3	3	5	90	10	9	1	1	3	0	3	0	11	0	2	2	17
Pontoon Boat	224	5	8	9	0	4	2	119	22	6	2	25	2	4	2	3	11	4	8	12	73
Unknown	564	15	22	8	15	8	4	343	41	9	2	17	6	4	28	19	23	16	6	22	90
PWC <sup>3</sup>	3,607	53	34	5	6	18	8	2,528	177	38	11	272	164	27	107	74	85	13	65	78	1,743
Other	93	6	4	6	1	1	2	32	20	0	3	2	7	0	1	1	7	5	0	5	22
Airboat	47	4	3	1	0	2	1	13	11	0	1	4	1	2	0	0	4	5	3	8	32
Jet Boat	15	0	0	0	1	0	0	9	0	1	0	1	0	0	2	0	1	0	0	0	5
Mini Jet Boat	15	0	3	1	0	0	0	4	3	0	0	3	1	0	0	0	0	0	1	1	10

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns. <sup>3</sup> Personal watercraft

## TYPES OF ACCIDENTS BY LENGTH OF VESSEL - 1998

	NUMBER OF VESSELS INVOLVED IN ACCIDENTS																VICTIMS					
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	FIRE OR EXPLOSION ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	COLLISION WITH OBJECT	STRUCK SUBMERGED	FALLS OVERBOARD	FALLS IN BOAT	STRUCK BY MOTOR OR PROPELLER	STRUCK BY BOAT	SKIER MISHAP	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	TOTAL DEATHS	INJURIES
<b>TOTALS</b>	<b>11,368</b>	<b>495</b>	<b>591</b>	<b>459</b>	<b>250</b>	<b>212</b>	<b>121</b>	<b>5,641</b>	<b>943</b>	<b>216</b>	<b>169</b>	<b>686</b>	<b>364</b>	<b>123</b>	<b>220</b>	<b>535</b>	<b>343</b>	<b>574</b>	<b>241</b>	<b>815</b>	<b>4,612</b>	
4 FT	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5 FT	9	0	0	0	0	0	0	8	0	0	0	0	1	0	0	0	0	0	0	0	0	3
6 FT	50	0	3	0	0	0	0	36	3	0	1	2	3	0	1	1	0	1	0	1	1	21
7 FT	147	1	6	1	2	1	0	91	7	1	1	17	6	1	8	1	3	7	1	8	76	
8 FT	689	13	13	2	2	1	1	473	35	13	1	56	30	8	21	9	11	13	14	27	356	
9 FT	1,145	19	16	5	1	9	4	787	52	10	5	95	60	11	24	23	24	7	23	30	555	
10 FT	1,577	19	35	4	3	8	3	1,090	74	18	5	114	61	8	49	40	46	36	32	68	738	
11 FT	98	0	8	2	0	1	0	55	11	0	1	13	5	0	1	0	1	9	2	11	44	
12 FT	169	4	54	13	4	1	0	53	8	0	1	20	3	1	1	2	4	53	8	61	84	
13 FT	91	3	14	6	2	1	0	26	12	2	1	13	2	1	4	3	1	16	3	19	47	
14 FT	352	6	61	37	25	2	0	85	39	11	5	53	11	4	3	3	7	90	9	99	141	
15 FT	349	12	63	43	23	3	1	91	31	11	7	26	6	2	4	16	10	34	8	42	167	
16 FT	576	19	64	54	37	12	6	180	54	14	9	41	12	7	7	43	17	76	19	95	260	
17 FT	609	26	69	47	14	15	3	225	49	18	13	30	10	14	5	50	21	49	21	70	287	
18 FT	695	34	27	46	19	16	6	272	59	20	14	34	24	11	12	80	21	34	12	46	341	
19 FT	544	47	17	28	12	15	5	194	50	11	15	17	17	9	5	92	10	17	10	27	269	
20 FT	578	40	23	30	18	10	4	228	57	21	14	32	9	9	5	64	12	27	11	38	229	
21 FT	342	26	11	20	11	8	2	148	36	8	11	9	6	5	3	31	7	12	6	18	124	
22 FT	220	15	13	16	7	4	1	88	23	3	9	5	6	6	2	14	8	7	3	10	104	
23 FT	199	13	2	5	4	9	0	98	19	8	6	8	8	5	2	8	4	3	1	4	89	
24 FT	300	26	6	15	4	14	4	138	34	4	5	13	9	4	3	9	12	3	6	9	110	
25 FT	175	11	4	8	2	3	11	79	17	2	8	11	8	1	2	3	5	4	7	11	55	
26 FT	128	13	4	4	6	7	5	53	9	0	1	10	6	1	0	2	7	5	14	19	36	
27 FT	100	6	0	3	1	3	2	50	13	5	4	1	5	1	2	0	4	0	0	0	26	
28 FT	142	12	3	8	3	7	7	63	12	5	0	3	2	4	1	2	10	0	1	1	48	
29 FT	58	7	1	5	3	2	2	16	10	1	1	5	2	0	1	1	1	0	0	0	17	
30 FT	116	13	3	1	6	11	2	48	18	1	3	4	0	0	1	0	5	3	1	4	23	
31 FT	50	5	1	2	3	2	2	23	6	0	0	1	1	1	1	1	1	0	1	1	9	
32 FT	64	3	0	1	2	5	3	34	6	0	1	1	5	0	1	0	2	0	0	0	13	
33 FT	48	4	0	0	0	3	3	27	8	0	1	0	1	1	0	0	0	0	1	1	7	
34 FT	82	6	0	1	1	4	5	40	13	1	3	2	1	0	0	0	5	1	1	2	10	
35 FT	62	6	1	3	1	1	2	30	9	2	1	0	2	1	0	0	3	0	2	2	10	
36 FT	74	8	3	2	3	3	5	31	7	1	5	2	1	0	0	0	3	3	1	4	13	
37 FT	50	4	1	1	3	0	4	19	6	2	1	1	3	0	2	0	3	1	0	1	6	
38 FT	67	2	0	1	0	3	3	50	4	1	0	2	0	0	0	0	1	2	0	2	14	
39 FT	30	0	0	0	1	0	4	11	8	2	0	0	0	0	0	0	4	0	0	0	5	
40 FT	59	5	1	3	0	1	2	29	5	0	2	3	2	0	2	0	4	2	0	2	13	
41 FT	19	2	0	0	0	0	2	8	2	1	1	0	0	0	2	0	1	0	0	0	2	
42 FT	48	6	1	2	1	1	2	20	3	1	2	2	2	1	1	0	3	0	2	2	7	
43 FT	28	0	0	1	0	3	2	13	4	0	1	0	1	0	1	0	2	0	0	0	3	
44 FT	17	1	0	0	0	1	0	10	2	0	0	0	0	0	1	0	2	0	0	0	0	
45 FT	22	2	0	2	0	0	0	10	6	0	0	0	2	0	0	0	0	0	0	0	3	
46 TO 65 FT	253	18	2	4	8	6	10	123	46	3	0	1	10	1	5	1	15	0	4	4	35	
> 65 FT	93	3	1	3	0	0	0	57	19	2	2	1	2	0	1	0	2	0	1	1	3	
UNKNOWN	843	35	60	30	18	14	3	430	57	13	8	38	19	5	36	36	41	59	16	75	209	

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns.

TYPES OF ACCIDENTS BY TYPE OF PROPULSION - 1998																					
	NUMBER OF VESSELS INVOLVED IN ACCIDENTS																	VICTIMS			
	TOTAL VESSELS INVOLVED	GROUNDING	CAPSIZING	FLOODING <sup>1</sup>	SINKING	FIRE OR EXPLOSION (FUEL)	FIRE OR EXPLOSION (OTHER)	FIRE OR EXPLOSION ANOTHER VESSEL	COLLISION WITH FIXED OBJECT	COLLISION WITH FLOATING OBJECT	COLLISION WITH OBJECT	STRUCK SUBMERGED OBJECT	FALLS OVERBOARD	FALLS IN BOAT	STRUCK BY MOTOR OR PROPELLER	STRUCK BY BOAT	SKIER MISHAP	OTHER CASUALTIES <sup>2</sup>	DROWNINGS	OTHER DEATHS	TOTAL DEATHS
<b>TOTALS</b>	<b>11,368</b>	<b>495</b>	<b>591</b>	<b>459</b>	<b>250</b>	<b>212</b>	<b>121</b>	<b>5,641</b>	<b>943</b>	<b>216</b>	<b>169</b>	<b>686</b>	<b>364</b>	<b>123</b>	<b>220</b>	<b>535</b>	<b>343</b>	<b>574</b>	<b>241</b>	<b>815</b>	<b>4,612</b>
Air Thrust	83	5	9	2	0	2	1	29	13	1	1	5	4	2	2	0	7	7	4	11	48
Manual	244	0	126	13	3	0	1	17	27	0	1	37	7	0	1	0	11	143	8	151	117
Propeller	5,734	339	295	364	182	163	89	2,312	578	130	147	305	151	75	67	371	165	325	137	462	2,185
Sail	149	8	21	6	2	1	4	77	15	0	1	3	2	0	1	0	8	1	4	5	21
Water Jet	3,764	66	39	33	14	23	10	2,568	193	44	12	277	173	26	107	93	86	14	68	82	1,788
Unknown	1,394	77	101	40	49	23	16	638	117	41	7	59	27	20	42	71	66	84	20	104	453
	TYPES OF ACCIDENTS BY TYPE OF PROPELLER DRIVEN ENGINE																				
Outboard	2,736	120	241	260	110	33	15	1,033	271	64	56	220	55	32	126	75	269	80	349	1,080	
Inboard	1,511	118	25	47	45	62	44	683	173	25	36	33	41	12	19	94	54	18	21	39	447
I/O & Sterndrive	1,360	91	22	53	26	67	28	530	123	41	54	48	49	36	147	32	32	33	65	630	

Type of accident refers only to the first event that occurred. Some accidents involve more than one event. A grounding followed by a sinking is counted only as a grounding even though the sinking may have directly led to a fatality. <sup>1</sup> Includes swamping. <sup>2</sup> Includes unknowns.

## REPORTING OF ALCOHOL INVOLVEMENT

Alcohol involvement in a boating accident includes any accident in which alcoholic beverages are consumed in the boat and the investigating official has determined that the operator was impaired or affected while operating the boat. In most cases, there is not enough data available to provide the level of impairment. Higher accident figures for some States may be an indication of better reporting in those States than a more serious problem of alcohol involvement in boating accidents.

Historically, the reporting of alcohol involvement in recreational boating accidents has been lower than expected. Beginning in 1987 the recommended Boating Accident Report (BAR) form contained a block for indicating the involvement of alcohol. Obviously operators are not motivated to report themselves as having had alcohol before a boating accident occurred. Many BAR's are filed by law enforcement officials, who should not have failed to report the involvement of alcohol.

The table on page 31 shows alcohol involvement reporting for the last five years. These statistics include all victims in reported alcohol-related accidents, where there was evidence or a reasonable likelihood that alcohol was consumed by a boat's occupants.



## ALCOHOL INVOLVEMENT IN BOATING ACCIDENTS 1994- 1998

Accidents where there was evidence or a reasonable likelihood that alcohol was consumed by a boat's occupants.

	FATALITIES					INJURIES					BOATING ACCIDENT REPORTS WITH ALCOHOL INVOLVED				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
<b>TOTAL</b>	<b>113</b>	<b>171</b>	<b>190</b>	<b>223</b>	<b>217</b>	<b>258</b>	<b>323</b>	<b>428</b>	<b>566</b>	<b>535</b>	<b>389</b>	<b>472</b>	<b>601</b>	<b>698</b>	<b>704</b>
Alabama	3	3	2	5	7	7	6	2	8	4	6	8	5	12	12
Alaska	8	2	4	7	9	1	0	1	5	2	5	1	12	14	10
Arizona	3	1	5	5	6	3	7	9	15	14	5	7	18	23	11
Arkansas	1	5	8	4	2	10	5	6	11	7	15	8	15	13	8
California	3	13	15	9	12	14	23	19	27	21	27	29	32	39	33
Colorado	1	0	2	0	3	3	0	3	0	4	3	1	5	3	8
Connecticut	0	1	0	1	5	1	1	0	5	10	2	3	1	6	9
Delaware	0	0	0	0	0	2	0	0	12	0	1	0	0	5	0
Dist. of Columbia	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Florida	11	34	20	32	26	44	104	66	73	58	57	109	77	83	94
Georgia	4	2	6	6	3	3	5	4	8	8	8	9	13	15	14
Hawaii	0	1	0	0	0	0	0	0	0	1	1	1	0	2	2
Idaho	1	3	4	12	4	2	4	9	8	1	5	5	14	14	11
Illinois	2	7	12	2	11	15	13	7	13	55	17	15	19	10	36
Indiana	3	0	2	1	6	22	4	1	8	21	13	9	5	6	14
Iowa	4	2	5	1	4	24	2	8	9	1	30	7	8	5	4
Kansas	2	0	2	3	3	3	0	5	0	4	5	2	7	3	7
Kentucky	3	3	2	6	4	1	3	4	2	11	5	5	4	5	9
Louisiana	4	6	2	2	4	4	5	4	7	13	11	15	8	10	8
Maine	0	0	0	0	0	0	2	1	3	1	1	6	3	3	2
Maryland	1	4	2	0	1	1	2	3	1	6	4	6	9	3	4
Massachusetts	0	1	2	2	2	0	2	2	0	0	1	6	2	2	2
Michigan	1	3	5	3	7	2	2	44	31	33	6	5	36	39	48
Minnesota	4	5	6	8	6	7	3	20	32	32	13	14	31	41	43
Mississippi	2	1	1	5	4	0	1	7	3	3	2	4	5	6	8
Missouri	1	3	10	10	10	4	5	50	54	48	11	13	58	76	67
Montana	2	0	4	3	2	1	0	0	5	1	2	1	4	5	2
Nebraska	0	0	3	0	1	0	1	2	17	3	0	3	5	2	3
Nevada	2	1	2	2	3	10	3	4	4	6	13	9	9	6	10
New Hampshire	0	1	2	1	2	0	1	0	2	0	0	2	2	2	1
New Jersey	1	1	2	1	2	6	1	12	15	11	8	2	15	8	11
New Mexico	0	3	3	2	0	0	1	9	3	4	0	2	8	5	5
New York	3	8	4	11	5	4	14	17	26	31	10	21	24	35	27
North Carolina	3	8	2	2	11	15	10	9	18	20	15	18	14	18	35
North Dakota	0	2	1	1	0	0	0	4	0	0	0	2	2	1	1
Ohio	6	1	2	3	8	6	5	3	22	21	9	5	8	20	19
Oklahoma	0	3	3	2	2	0	4	12	7	7	0	3	9	9	9
Oregon	1	3	1	6	1	1	0	3	4	5	3	6	5	6	6
Pennsylvania	6	5	1	4	3	4	1	4	4	1	8	8	4	11	4
Rhode Island	0	1	0	2	0	0	3	0	2	2	0	2	0	4	2
South Carolina	5	2	5	9	7	5	2	4	19	6	7	7	10	21	15
South Dakota	0	1	0	0	0	0	4	1	0	0	1	2	1	2	1
Tennessee	0	2	1	4	0	0	0	4	5	3	0	2	6	8	6
Texas	5	8	8	14	8	0	8	4	7	8	6	14	15	17	17
Utah	0	1	1	3	2	11	2	1	2	3	10	4	4	4	7
Vermont	0	0	0	0	2	0	0	0	0	1	0	0	0	0	2
Virginia	3	2	3	3	1	1	0	3	5	14	8	5	6	9	8
Washington	10	4	10	7	8	7	4	12	19	13	15	8	17	21	23
West Virginia	0	5	3	2	5	0	7	3	4	1	1	3	3	4	3
Wisconsin	4	8	12	14	5	14	53	41	35	16	19	54	42	37	23
Wyoming	0	0	0	1	0	0	0	1	2	0	0	0	1	2	0
Guam	0	0	0	0	0	0	0	0	4	0	0	0	0	1	0
Puerto Rico	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Virgin Islands	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
Am. Samoa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No. Marianas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



## CAUSES OF BOATING ACCIDENTS - 1998

	ACCIDENTS*	FATALITIES
*Historically reported as vessels involved		
<b>TOTALS</b>	<b>8,061</b>	<b>815</b>
<b>LOADING OF PASSENGERS OR GEAR</b>		
Passenger/Skier behavior	295	29
Improper loading	49	17
Overloading	70	43
Improper anchoring	35	8
Sitting on gunwale, transom, bow or seat back	35	20
<b>HULL FAILURE</b>	118	6
<b>MACHINERY</b>		
Machinery Failure	93	2
Electrical System Failure	48	0
Engine Failure	128	3
Fuel System Failure	37	2
Shift Failure	32	0
Steering System Failure	50	8
Throttle Failure	25	1
Ventilation System Failure	13	0
<b>EQUIPMENT</b>		
Equipment Failure	124	2
Auxiliary Equipment Failure	36	1
Sailboat dismasting	2	0
Seat Broke Loose	2	1
<b>OPERATION OF VESSEL</b>		
Alcohol use	360	119
Careless/Reckless Operation	900	32
Drug Use	3	1
Excessive Speed	685	47
Failure to ventilate	25	4
Lack of or improper lights	22	3
Navigational error	6	0
No proper Lookout	683	27
Off-Throttle Steering	48	0
Operator inattention	962	70
Operator inexperience	846	55
Other violation of the Rules of the Road	117	6
Restricted Vision	116	4
Sharp Turn	54	2
Starting in Gear	1	0
<b>ENVIRONMENT</b>		
Congested Waters	60	1
Dam or Lock	9	5
Force of Wave or Wake	63	1
Hazardous Waters	606	95
Unfamiliar Waters	8	0
Weather	428	68
<b>IGNITION OF SPILLED FUEL OR VAPOR</b>	49	1
<b>OTHER</b>	378	52
<b>UNKNOWN</b>	441	79



### OPERATION AT TIME OF ACCIDENTS - 1998

	VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>	<b>11,368</b>	<b>815</b>
Cruising	6,020	342
At anchor	402	46
Drifting	897	127
Launching	47	2
Rowing/paddling	126	75
Sailing	110	9
Changing direction	689	40
Changing speed	306	8
Docking/Leaving dock	461	9
Tied to Dock/Moored	785	12
Being towed	98	1
Towing another boat	51	0
Other	703	63
Unknown	673	81



### ACTIVITY AT TIME OF ACCIDENT - 1998

	VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>	<b>11,368</b>	<b>815</b>
Diving/Swimming	57	4
Fishing	791	252
Fueling	41	1
Hunting	40	28
Racing	64	8
Repairs	77	11
Skiing/Tubing	749	24
Starting Engine	76	3
Whitewater	62	31
Other	1,430	50
Unknown	7,981	403



## OPERATOR INFORMATION - 1998

		VESSELS INVOLVED	FATALITIES
<b>TOTALS</b>		<b>11,368</b>	<b>815</b>
<b>AGE OF OPERATOR</b>	Under 12 years	46	3
	12 to 18 years	901	39
	19 to 25 years	1,334	88
	26 to 50 years	4,346	365
	Over 50 years	1,153	164
	Unknown	3,588	156
<b>OPERATOR'S EXPERIENCE</b>	Less than 10	1,300	89
	10 to 100 hours	2,381	137
	Over 100 hours	4,680	280
	Unknown	3,007	309
<b>NUMBER OF PERSONS ON BOARD</b>	None	723	4
	One	3,650	229
	Two	2,934	276
	Three	1,165	134
	Four	854	67
	Five	457	29
	Six	339	25
	Seven	155	7
	Eight	102	5
	Nine	37	6
	Ten	30	1
	More than 10	67	4
	Unknown	855	28
<b>EDUCATION OF OPERATOR <sup>1</sup></b>	American Red Cross	88	1
	Informal	245	15
	None	5,573	412
	Other	207	7
	State	638	19
	USCG Auxiliary	730	10
	US Power Squadrons	317	5
Unknown	3,570	346	
<b>LIFE JACKETS</b>	Approved, accessible	6,255	341
	Approved, not accessible	3,168	220
	Not approved, accessible	179	26
	Not approved, not accessible	1,766	228
<b>TYPE OF DEATH AND LIFE JACKET STATUS</b>	Carbon Monoxide		3
	Drowning	Worn	65
	Drowning	Not Worn	509
	Hypothermia	Worn	6
	Hypothermia	Not Worn	2
	Other	Worn	7
	Other	Not Worn	28
	Trauma	Worn	79
	Trauma	Not Worn	88
	Unknown		28

<sup>1</sup> Education of operator implies that some education has been received, but not necessarily that a course was successfully completed.



## WEATHER AND WATER CONDITIONS - 1998

*Historically reported as vessels involved		ACCIDENTS*	FATALITIES
<b>TOTALS</b>		<b>8,061</b>	<b>815</b>
<b>TYPE OF BODY OF WATER</b>	Ocean/Gulf	483	41
	Great Lakes (not tributaries)	244	9
	Bays, inlets, sounds, harbors,	1,206	94
	Rivers, streams, creeks	2,022	256
	Lakes, ponds, reservoirs, dams, gravel pits	3,571	366
	Other	502	47
	Unknown	33	2
<b>WATER CONDITIONS<sup>1</sup></b>	Calm (waves less than 6")	3,912	368
	Choppy (waves 6" to 2')	2,347	160
	Rough (waves 2' to 6')	788	104
	Very Rough (waves larger than 6")	<b>232</b>	<b>45</b>
	Strong current	<b>1,570</b>	<b>141</b>
	Unknown	772	136
<b>WIND</b>	None	1,122	124
	Light (0 - 6 mph)	3,771	324
	Moderate (7 - 14 mph)	1,885	172
	Strong (15 - 25 mph)	670	101
	Storm (over 25 mph)	176	20
	Unknown	437	74
<b>VISIBILITY<sup>2</sup></b>	Good - Day	4,102	390
	Fair - Day	200	34
	Poor - Day	79	20
	Good - Night	2,415	184
	Fair - Night	288	54
	Poor - Night	183	37
	Unknown - Day	486	57
	Unknown - Night	308	39
<b>WATER TEMPERATURE</b>	Below 30 degrees F	76	2
	30 - 39 degrees F	47	12
	40 - 49 degrees F	159	61
	50 - 59 degrees F	467	113
	60 - 69 degrees F	1,285	136
	70 - 79 degrees F	2,476	150
	80 - 89 degrees F	1,596	128
	90 degrees F and above	76	8
	Unknown	1,879	205

<sup>1</sup> A Boating Accident Report may indicate strong current and any one of the other types of water conditions.

<sup>2</sup> Accidents are reported as "dark" when they occur at night even if the visibility is reported "good," "fair," or "poor."



## MISCELLANEOUS DATA - 1998

		ACCIDENTS*	FATALITIES
*Historically reported as vessels involved			
<b>TOTALS</b>		<b>8,061</b>	<b>815</b>
<b>TIME OF DAY</b>	Midnight to 2:30 am	158	23
	2:31 am to 4:30 am	70	10
	4:31 am to 6:30 am	68	13
	6:31 am to 8:30 am	184	38
	8:31 am to 10:30 am	424	51
	10:31 am to 12:30 pm	832	86
	12:31 pm to 2:30 pm	1,378	92
	2:31 pm to 4:30 pm	1,819	126
	4:31 pm to 6:30 pm	1,425	130
	6:31 pm to 8:30 pm	832	95
	8:31 pm to 10:30 pm	415	49
	10:31 pm to midnight	189	30
	Unknown	267	72
<b>MONTH OF YEAR</b>	January	132	32
	February	122	26
	March	246	46
	April	411	63
	May	1,173	126
	June	1,211	109
	July	1,887	125
	August	1,525	107
	September	777	83
	October	261	31
	November	181	33
	December	124	33
	Notreported	11	1
<b>DAY OF WEEK</b>	Sunday	1,990	156
	Monday	645	88
	Tuesday	463	58
	Wednesday	455	56
	Thursday	504	68
	Friday	797	81
	Saturday	2,114	172
	Notreported	1,093	136



## VESSEL INFORMATION - 1998

		VESSELS INVOLVED	FATALITIES					
<b>TOTALS</b>		<b>11,368</b>	<b>815</b>					
<b>HULL MATERIAL</b>	Wood	189	15					
	Aluminum	1,267	249					
	Fiberglass	9,104	444					
	Rubber, vinyl, canvas	81	30					
	Other	25	5					
	Unknown	702	72					
<b>SPEED</b>	Not moving	1,313	67					
	Under 10 mph	1,777	165					
	10 to 20 mph	1,447	55					
	21 to 40 mph	1,276	55					
	Over 40 mph	152	32					
	Not Reported	5,403	441					
<b>HORSEPOWER</b>	No engine	237	148					
	10 hp or less	275	65					
	11-25 hp	278	55					
	26-75 hp	1,642	106					
	Over 75 hp	5,402	228					
	Unknown	3,534	213					
<b>YEAR BUILT</b>	1998	942	45					
	1997	1,365	54					
	1995-1996	1,925	73					
	1993-1994	837	36					
	1990-1992	713	37					
	1985-1989	1,424	79					
	Prior to 1985	2,259	219					
	Unknown	1,903	272					
<b>LENGTH</b>	Less than 16 feet	4,677	366					
	16 feet to less than 26 feet	4,238	328					
	26 feet to less than 40 feet	1,071	37					
	40 feet to not more than 65 feet	446	8					
	More than 65 feet	93	1					
	Unknown	843	75					
TYPE OF BOAT	VESSELS INVOLVED IN ACCIDENTS				FATALITIES			
	RENTED	BORROWED <sup>1</sup>	OWNER OPERATED	TOTAL	RENTED	BORROWED <sup>1</sup>	OWNER OPERATED	TOTAL
Open motorboat	214	1,632	2,522	4,368	12	172	257	441
Cabin motorboat	18	578	881	1,477	0	24	29	53
Auxiliary sailboat	10	132	239	381	0	1	6	7
Sailboat only	3	50	78	131	0	1	7	8
Rowboat	3	33	46	82	1	19	24	44
Canoe or kayak	25	48	94	167	18	33	64	115
Inflatable boat	22	5	23	50	5	1	13	19
Houseboat	49	32	66	147	0	2	0	2
Pontoon Boat	41	78	105	224	1	4	7	12
Personal Watercraft	889	1,301	1,417	3,607	16	32	30	78
Airboat	0	30	17	47	0	6	2	8
Jet Boat	2	7	6	15	0	0	0	0
Mini Jet Boat	3	7	5	15	0	1	0	1
Other/Unknown	11	127	519	657	2	5	20	27
<b>Total</b>	<b>1,290</b>	<b>4,060</b>	<b>6,018</b>	<b>11,368</b>	<b>55</b>	<b>301</b>	<b>459</b>	<b>815</b>

<sup>1</sup> The operator of the boat involved in the accident was not the owner of the boat.

## GLOSSARY

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

**Cabin motorboat** - Motorboats with a cabin which can be completely closed by means of doors or hatches. Large motorboats with cabins, even though referred to as yachts, are considered to be cabin motorboats.

**Capsizing** - Overturning of a vessel. The bottom must become uppermost, except in the case of a sailboat, which lies on its side.

**Collision with another vessel** - Any striking together of two or more vessels, regardless of operation at time of the accident, is a collision. (Also includes colliding with the tow of another vessel, regardless of the nature of the tow, i.e., surfboard, ski ropes, skier, tow line, etc.)

**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.

**Cruising** - Proceeding normally, unrestricted, with an absence of drastic rudder or engine changes.

**Documented yacht** - 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.

**Fallen Skier** - A person who has fallen off their waterskis.

**Fault of operator** - Speeding; overloading; improper loading, not properly seating occupants of boat; no proper lookout; carelessness; failure to heed weather warnings; operating in a congested area; not observing the Rules of the Road; unsafe fueling practices; lack of experience; ignorance of aids to navigation; lack of caution in an unfamiliar area of operation; improper installation or maintenance of hull, machinery or equipment; poor judgment; recklessness; overpowering the boat; panic; proceeding in an unseaworthy craft; operating a motorboat near persons in the water; starting engine with clutch engaged or throttle advanced; irresponsible boat handling such as quick, sharp turns.

**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 or coal.

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

**Flooding** - 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.

**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.

**Inboard-outboard** - Also referred to as inboard/outdrive. Regarded as inboard because the power unit is located inside the boat.

**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, not more than sixty-five feet in length.

**Motor vessel** - Any vessel equipped with propulsion machinery (other than steam) more than 65 feet long.

**Numbered vessel** - An undocumented vessel numbered by a state with an approved numbering system or by the Coast Guard 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.

**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.

**Personal Watercraft** - Craft less than 13 feet in length designed to be operated by a person or persons sitting, standing or kneeling on the craft rather than within the confines of a hull.

**Rules of the Road** - Statutory and regulatory rules governing navigation of vessels.

**Sailboat or auxiliary sailboat** - Craft intended to be propelled primarily by sail, regardless of size or type.

**Sinking** - Losing enough buoyancy to settle below the surface of the water.

**Speeding** - Operating at a speed, possibly below the posted limit, above that which a reasonable and prudent person would operate under the circumstances.

**Steel hull** - Hulls of sheet steel or steel alloy, not those with steel ribs and wood, canvas, or plastic hull coverings.

**Struck by boat or propeller** - Striking of a victim who is outside of the boat, but not necessarily a swimmer.

**Swamping** - Filling with water, particularly over the side, but retaining sufficient buoyancy to remain on the surface.

**Towing** - Engaged in towing any vessel or object, other than a person.

**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.