

# 2009



## TENNESSEE BOATING ACCIDENT STATISTICAL REPORT

---

# TABLE OF CONTENTS:

	<u>Pages</u>
History and Introduction.....	1
Executive Summary.....	2-4
<b>Boating Accident and Registration Statistics for All Years</b> .....	5 to 7
All Year's Table .....	5
Totals Graph .....	6
Rate Totals.....	7
<b>General Information and Statistics for All 2008 Boating Accidents</b> .....	8 to 26
Age of Operators .....	8,9
Vessel Length.....	10
Type of Vessels .....	11
Type of Accidents .....	12,13
Operation During Accidents .....	14
Activity During Accidents .....	15
Primary Causes .....	16,17
Times of Accidents .....	18
Accidents by Day of Week .....	19
Accidents per Body of Water .....	20,21
Accidents by County .....	22,23
Rented Vessels .....	24
Borrowed Vessels.....	25
Operator Education .....	26
<b>2009 Statistics on Fatal Accidents</b> .....	27 to 39
Ages of Operators .....	27
Vessel Length .....	28
Type of Vessels.....	29
Type of Accidents .....	30
Operation During Accident.....	31
Activity During Accidents .....	32
Contributing Causes .....	33
Accidents by Day of Week.....	34
Accidents by Time of Day .....	35
Accidents per Body of Water.....	36
Accidents by County .....	37,38
Causes of Death .....	39
<b>2009 Statistics on Injury Accidents</b> .....	40-55
Ages of Operators.....	40
Vessel Length .....	41
Type of Vessels .....	42
Type of Accidents .....	43,44
Activity During Accidents .....	45,46
Operation During Accident.....	47
Primary Causes .....	48,49
Accidents per Body of Water.....	50,51
Accidents by County.....	52,53
Accidents by Day of Week .....	54
Accidents by Time of Day .....	55
<b>2009 Statistics on Property Damage Accidents</b> . . . . .	56-73
Ages of Operators .....	56,57
Vessel Lengths.....	58
Type of Vessel .....	59
Type of Accidents .....	60
Activity During Accidents .....	61
Primary Causes .....	62,63

Accidents per Body of Water.....	64,65
Accidents by County .....	66,67
Accidents by Day of Week .....	68
Accidents by Time of Day .....	69
<b>2009 Statistics on Personal Watercraft (PWC) Accidents .....</b>	<b>70-75</b>
Ages of Operators .....	70,71
Primary Causes .....	72
Accidents per Body of Water.....	73
Accidents by County.....	74,75
<b>Glossary .....</b>	<b>76-79</b>
<b>Reporting Criteria .....</b>	<b>80-82</b>



## **HISTORY:**

The Tennessee Wildlife Resources Agency acquired the state's boating program in 1965 with the implementation of the 'Boating Safety Act'. Before this date the United States Coast Guard (USCG) administered the state's boating program.

## **INTRODUCTION:**

The 2009 Boating Accident Statistical Report is compiled by the Tennessee Wildlife Resources Agency (TWRA), Boating Division. The data used in this report is retrieved from "reportable boating accident" reports submitted by TWRA officers who investigate boat accidents and report their findings on TWRA Boating Accident Report forms (BAR). This data is for accidents which occurred during the 2009 calendar year.

To be considered a "reportable boating accident", an accident must involve a death, missing person, an injury which requires or should have required treatment beyond first aid, or property damage of \$2,000 or more. Tennessee requires operators involved in an accident to immediately notify TWRA and provide certain information to the investigating officer. TWRA officers are required by Agency policy to investigate accidents that meet the reporting criteria.

At the end of each calendar year, boating accident data is compiled and assembled into Tennessee's annual report. These statistics are analyzed in an effort to formulate pro-active plans to reduce the number of boating accidents and their related fatalities, injuries, and damage. The accident information is also reported to the USCG Office of Boating Safety in Washington, D.C. to be included in the National Boating Accident Database consisting of data from all U.S. states, commonwealths, and territories.

Any questions concerning this report should be directed to:

Tennessee Wildlife Resources Agency  
Boating Division - Investigation Section  
P.O. Box 40747  
Nashville, TN 37204  
Telephone: (615) 781-5271



## 2009 TENNESSEE BOATING ACCIDENT STATISTICAL REPORT

### EXECUTIVE SUMMARY

#### 2009 REPORTABLE BOATING ACCIDENTS

- The total number of *registered vessels* in 2009 was **269,361**. That was a **decrease** of over 2,000 from 2008.
- The total number of *reported accidents* in 2009 was **158**. That was a **decrease** from 2008 which had 159.
- The *accident rate* for 2009 was **58.7 per 100,000** registered vessels. This was an **increase** from 2008 which was 58.2 per 100,000.
- The *body of water* that reported the most accidents was **Ocoee River** with **25 accidents**. (resulting from whitewater activities)
- The *county* that reported the most accidents was **Polk County**. (whitewater activities)
- The *monetary amount* of damage resulting from boating accidents in 2009 was **\$1,167,392**. This was a **decrease** from 2008 which reported \$1,461,264.
- The most common *type of boat* involved in an accident was an **open motorboat**.
- The leading *type of accident* was **collision with another vessel**.
- The most common *operation* during an accident was **cruising**.
- The leading *primary cause* of accidents was **hazardous waters** (whitewater activities) followed by **alcohol use**.
- *Alcohol and/or drug use* was a primary cause in **9.5%** of accidents. This was a **decrease** from 2008 which was 12.5% of accidents.
- *Rented or borrowed vessels* were involved in **16.5%** of accidents in 2009. This was an **decrease** from 2008 which was 21% of accidents.
- The most likely *time* to be involved in an accident was between the hours of **Noon to 4 pm**.
- The most likely *day of the week* to be involved in an accident was **Saturday**.
- The leading *age groups* of operators to be involved in an accident was **21 through 25** and **26 through 30**.

## 2009 BOATING FATALITIES

- The *number* of boating fatalities for 2009 was **22**. This was an **increase** from 2008 which reported 20.
- The *type of accident* that resulted in the most fatalities was **falls overboard** with 9 occurrences.
- The *type of vessel* that was most common in fatal accidents was the **open motorboat** with 16 vessels.
- The *length of vessel* that was most common in fatal accidents was **16 to 26 feet** with 15 vessels.
- The top *primary cause* for fatal accidents was **alcohol use** with 6 occurrences.

## 2009 INJURY ACCIDENTS

- The *number* of injury accidents in 2009 was **78** resulting in **104 injuries**.
- The leading *contributing cause* of injury accidents was **hazardous waters**.
- The *type of accidents* that resulted in the most injuries was **falls overboard**.
- The *body of water* that produced the most injury accidents was the **Ocoee River** with 24 accidents. These resulted from whitewater sports activities.

## 2009 PROPERTY DAMAGE ACCIDENTS

- The *number* of property damage accidents in 2009 was **58**. This was an **increase** from 2008 which reported 52.
- The *type of accident* that most commonly resulted in property damage was **collision with another vessel** with 13 occurrences.
- The *body of water* that reported the most property damage accidents was **Chickamauga Lake** with 11 accidents.
- The leading *primary causes* in property damage accidents were **operator inattention, weather, and hull failure** with 6 occurrences each.

## 2009 PERSONAL WATERCRAFT (PWC) ACCIDENTS

- The *number* of PWC's involved in accidents in 2009 was **35**, an **increase** from 2008 which reported 33.
- The *number* of PWC's involved in injury accidents was **28**, an **increase** from 2008 which reported 26.
- The *number* of PWC's involved in fatal accidents was **0**, the same as 2008.
- The leading *primary causes* for PWC accidents were **operator inexperience and operator inattention** with 4 occurrences each.
- The *body of water* with the most PWC accidents was **Tims Ford Lake** with 5 accidents.
- The most common *operator age group* to be involved in a PWC accident was **36 through 40**.





## 2009 LAW ENFORCEMENT SUMMARY

• Total boating law enforcement hours	<b>57,803</b>
• On-Water law enforcement hour(boat log hours)	<b>43,100</b>
• Boating citations issued	<b>2,350</b>
• BUI arrests	<b>153</b>
• Warning citations issued	<b>1,447</b>
• Vessels inspected by law enforcement	<b>81,867</b>
• Search and rescue missions	<b>15</b>
• Total number of boating enforcement officers	<b>183 full time</b> <b>52 part time</b> <b>235 total</b>
• Officers trained in BUI detection	<b>142</b>
• Officers trained in accident investigation	<b>25</b>

## 2009 BOATING EDUCATION SUMMARY

In 2005 a law went into effect that required vessel operators born after January 1, 1989 to have onboard the Tennessee Wildlife Resources Agency (TWRA)-issued Boating Safety Education Certificate. Students must pass a monitored exam administered by appointed volunteers or TWRA personnel. All exams are approved by the National Association of State Boating Law Administrators (NASBLA).

• Number of persons successfully completing exam in 2009	<b>3,974</b>
--	--------------



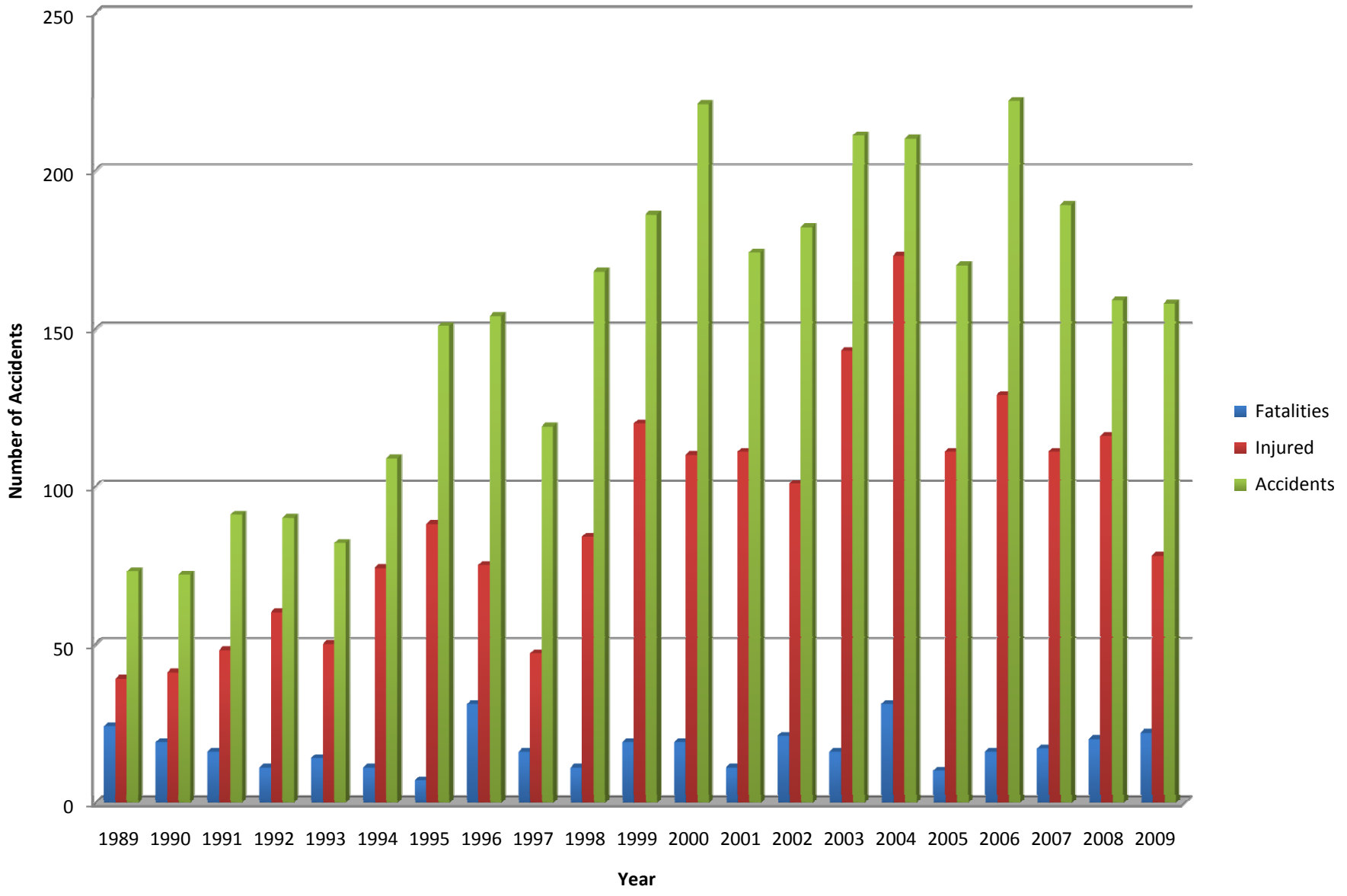
### Boating Accident Report Statistics

Compiled From 1965 through 2009

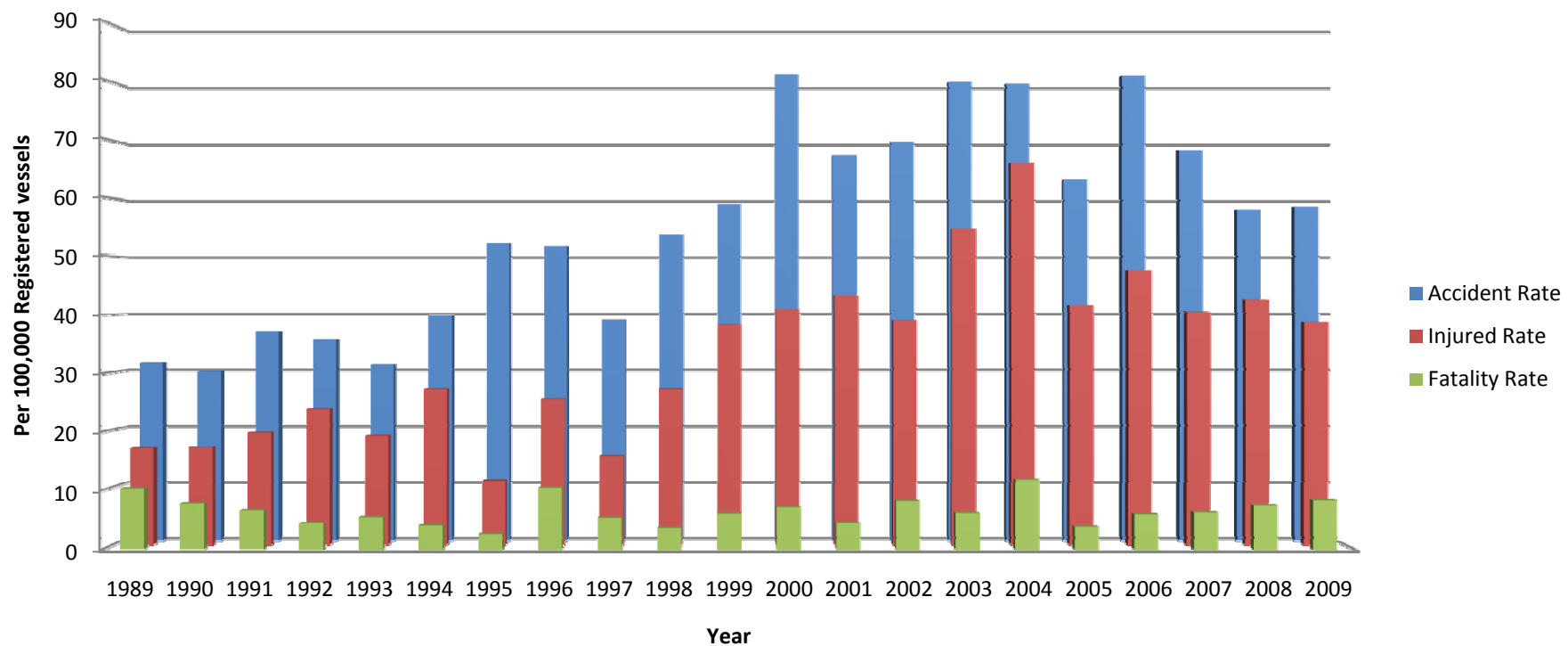
YEAR	NUMBER			RATE PER 100.00 VESSELS			
	REGISTERED VESSELS	INJURED	FATALITIES	ACCIDENTS	INJURED	FATAL	ACCIDENTS
1965	70,899	6	2	13	8.5	2.8	18.3
1966	81,897	13	8	33	15.9	9.8	40.3
1967	90,844	11	29	51	12.1	31.9	56.2
1968	97,785	16	18	54	16.4	18.4	55.2
1969	122,958	16	27	40	13	21.9	32.5
1970	120,292	18	40	51	14.9	33.3	42.4
1971	140,370	1	22	18	0.7	15.7	12.8
1972	153,227	9	25	48	5.9	16.3	31.3
1973	174,729	13	47	72	7.4	26.9	41.2
1974	189,290	27	37	64	14.3	19.5	33.8
1975	204,499	49	30	95	23.9	14.7	46.5
1976	169,543	30	26	90	17.7	15.3	53.1
1977	182,752	64	35	102	35	19.2	55.8
1978	215,292	32	29	84	14.9	13.5	39
1979	183,224	46	37	84	25.1	20.2	45.8
1980	185,298	78	30	92	42.1	38.9	49.6
1981	186,221	41	38	78	22	20.4	41.9
1982	187,850	38	32	71	20.2	17	37.8
1983	192,018	46	32	93	23.9	16.7	48.4
1984	196,446	47	24	69	23.9	12.2	35.1
1985	200,582	36	22	74	17.9	10.9	36.9
1986	207,409	49	28	82	23.6	13.5	39.5
1987	214,646	50	26	90	23.3	12.1	41.9
1988	224,709	51	15	89	22.7	6.7	39.6
1989	233,403	39	24	73	16.7	10.3	31.3
1990	241,632	41	19	72	16.9	7.7	29.8
1991	247,661	48	16	91	19.4	6.5	36.7
1992	255,043	60	11	90	23.5	4.3	35.3
1993	264,194	50	14	82	18.9	5.3	31
1994	275,597	74	11	109	26.9	3.9	39.6
1995	288,834	88	7	151	11.1	2.4	52.3
1996	297,719	75	31	154	25.2	10.4	51.7
1997	306,215	47	16	119	15.3	5.2	38.9
1998	312,030	84	11	168	26.9	3.5	53.8
1999	314,620	120	19	186	38.1	6	59.1
2000	269,583	110	19	221	40.8	7	81.9
2001	256,670	111	11	174	43.2	4.3	67.8
2002	259,235	101	21	182	38.9	8.1	70.2
2003	261,636	142	17	213	54.6	6.1	80.6
2004	261,465	173	31	210	66.1	11.8	80.3
2005	267,567	108	10	169	41.5	3.7	63.5
2006	271,687	129	16	222	47.5	5.9	81.7
2007	274,914	111	17	189	40.4	6.2	68.7
2008	271,455	116	20	159	42.4	7.4	58.2
2009	269,361	104	22	158	38.6	8.2	58.7
<b>Avg. 1965 to 2009</b>	<b>215,407</b>	<b>60</b>	<b>23</b>	<b>107</b>	<b>25</b>	<b>12</b>	<b>48</b>



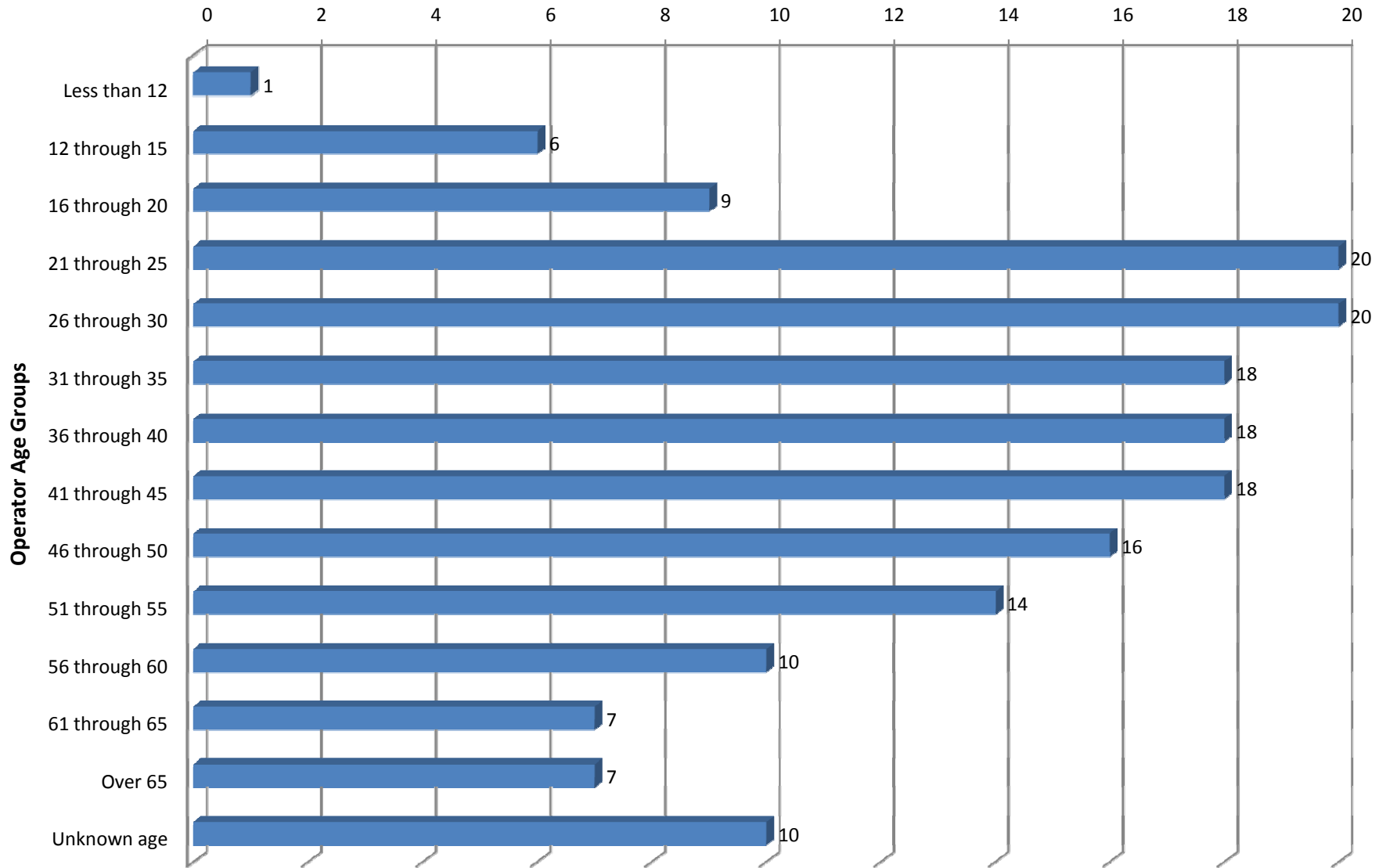
# Accident Totals 1989-2009



## Accident Rates 1989-2009



# Number of Operators by Age Groups All Accidents 2009

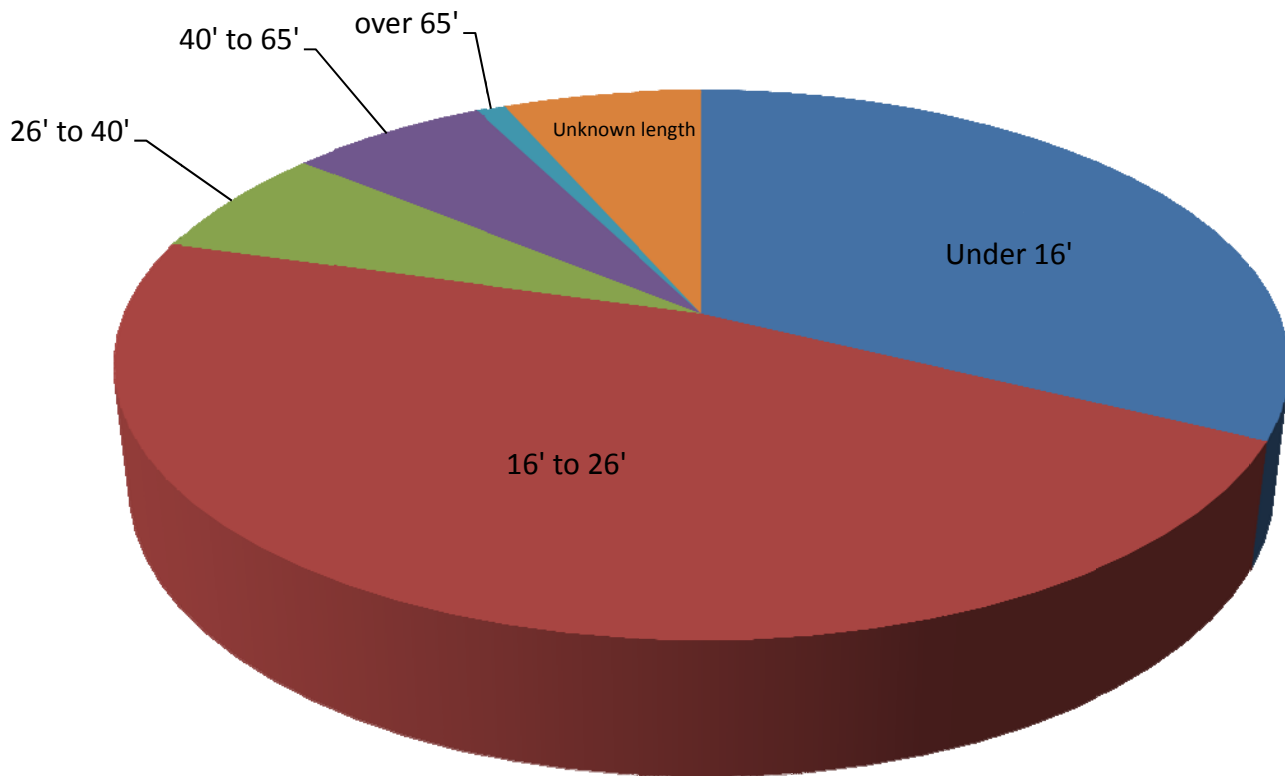


## Number of Operators by Age Groups

### All Accidents 2009

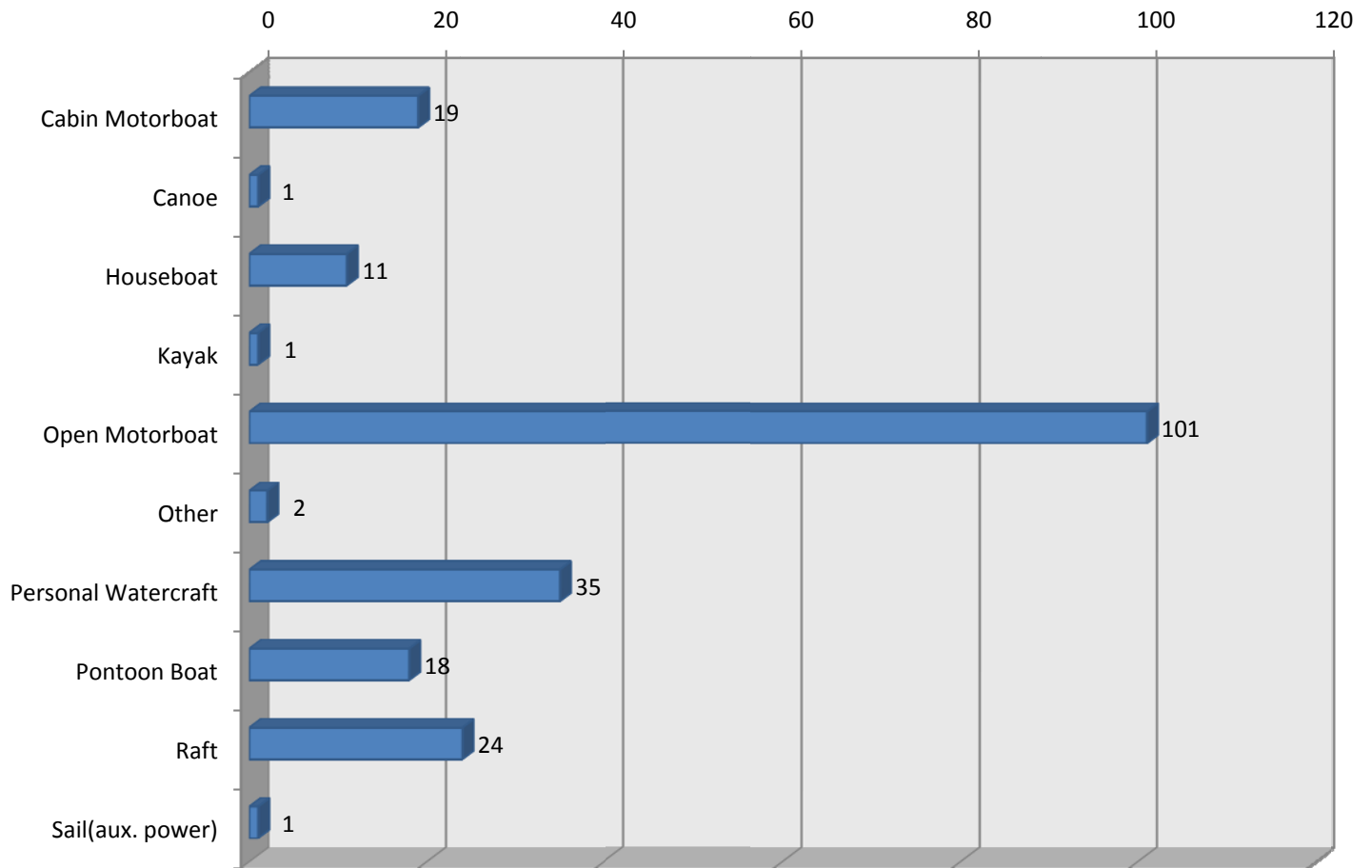
<b>Operator Ages</b>	<b>Number of Operators</b>
Less than 12	1
12 through 15	6
16 through 20	9
21 through 25	20
26 through 30	20
31 through 35	18
36 through 40	18
41 through 45	18
46 through 50	16
51 through 55	14
56 through 60	10
61 through 65	7
Over 65	7
Unknown age	10

## Number of Vessels by Length Category All Accidents 2009



Vessel Length Category	No. of Vessels
Under 16'	69
16' to 26'	101
26' to 40'	14
40' to 65'	14
over 65'	2
Unknown length	14

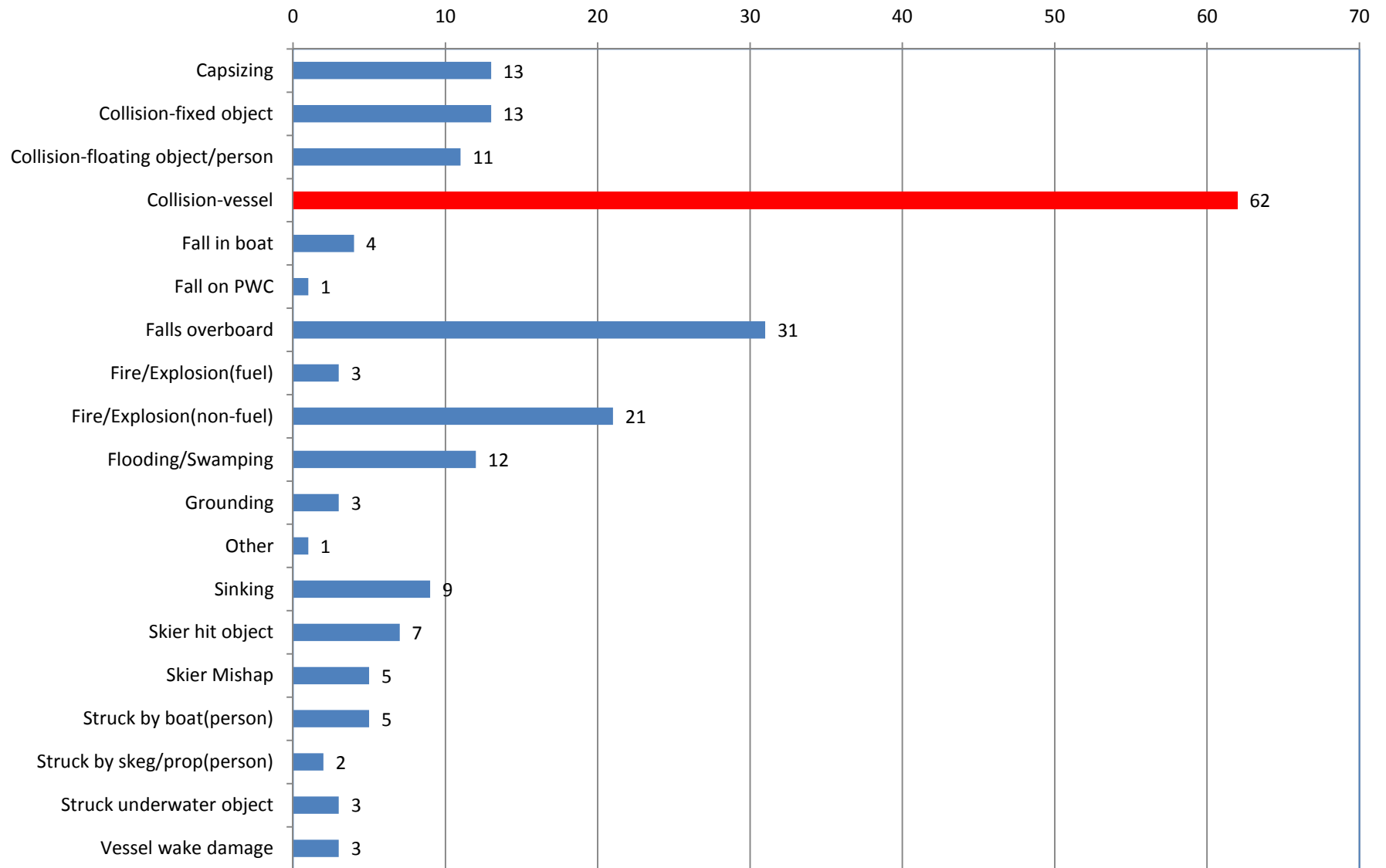
## Number of Vessels by Vessel Type All accidents 2009



Vessel Type	Number of Vessels
Cabin Motorboat	19
Canoe	1
Houseboat	11
Kayak	1
Open Motorboat	101
Other	2
Personal Watercraft	35
Pontoon Boat	18
Raft	24
Sail(aux. power)	1



## Number of Vessels Involved by Accident Type All Accidents 2009

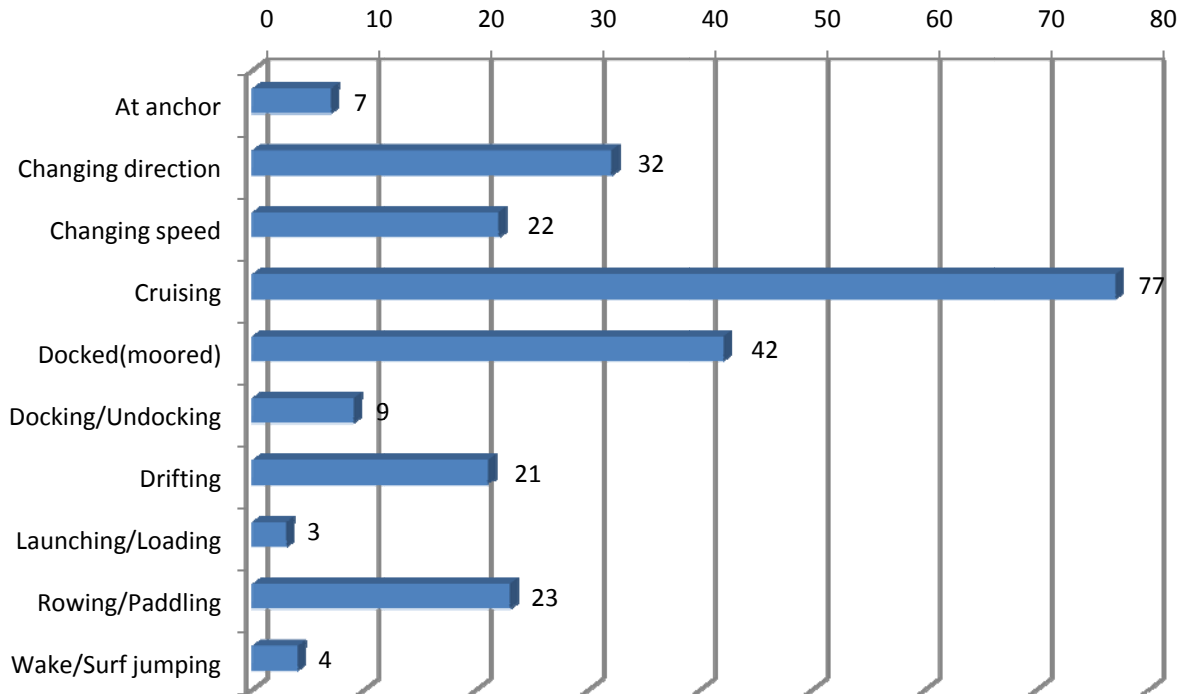


## Number of vessels involved by accident type

### All accidents 2009

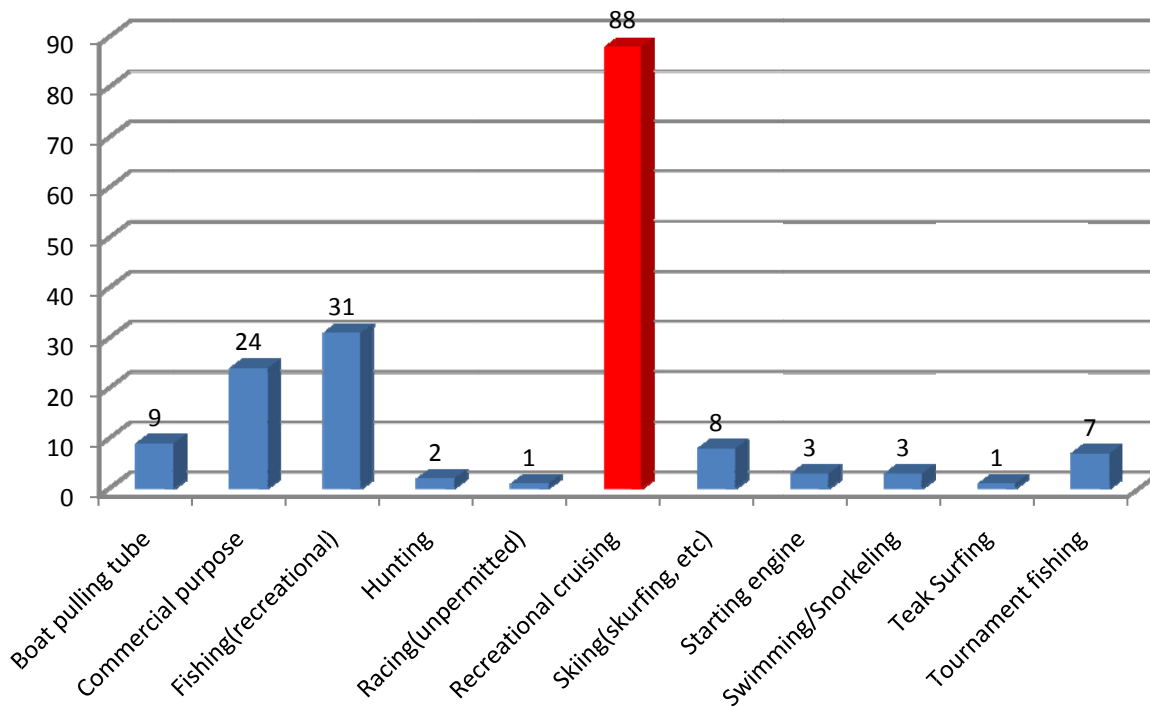
Accident Type	Number of Vessels
Capsizing	13
Collision-fixed object	13
Collision-floating object/person	11
Collision-vessel	62
Fall in boat	4
Fall on PWC	1
Falls overboard	31
Fire/Explosion(fuel)	3
Fire/Explosion(non-fuel)	21
Flooding/Swamping	12
Grounding	3
Other	1
Sinking	9
Skier hit object	7
Skier Mishap	5
Struck by boat(person)	5
Struck by skeg/prop(person)	2
Struck underwater object	3
Vessel wake damage	3

## Number of Vessels by Operation Type All Accidents 2009



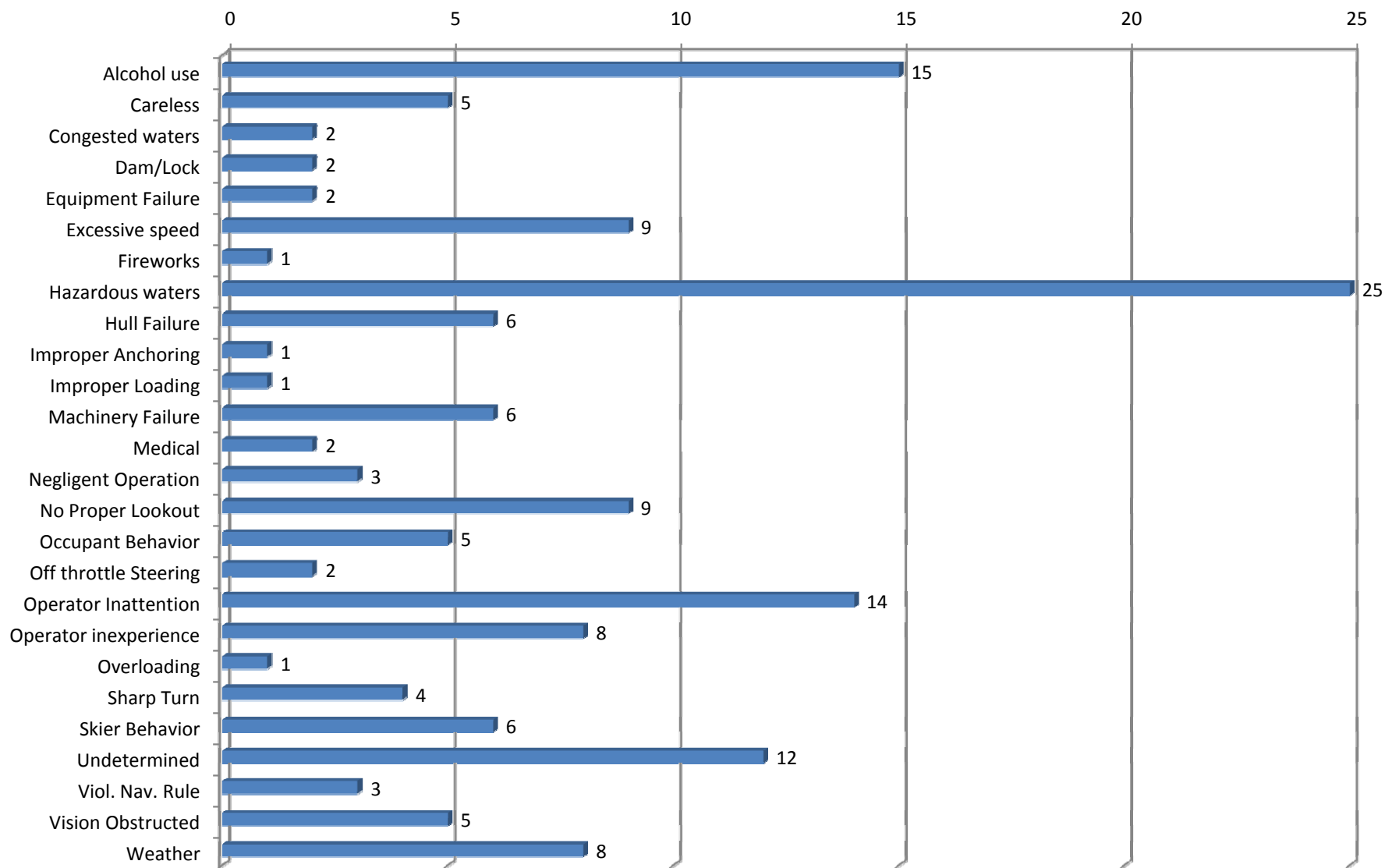
<b>Vessel Operation</b>	<b>Number of Vessels</b>
At anchor	7
Changing direction	32
Changing speed	22
Cruising	77
Docked(moored)	42
Docking/Undocking	9
Drifting	21
Launching/Loading	3
Rowing/Paddling	23
Wake/Surf jumping	4

## Frequency of Activity at Time of Accident All Accidents 2009



Activity	Frequency
Boat pulling tube	9
Commercial purpose	24
Fishing(recreational)	31
Hunting	2
Racing(unpermitted)	1
Recreational cruising	88
Skiing(skurfing, etc)	8
Starting engine	3
Swimming/Snorkeling	3
Teak Surfing	1
Tournament fishing	7

## Number of Accidents by Primary Cause All Accidents 2009

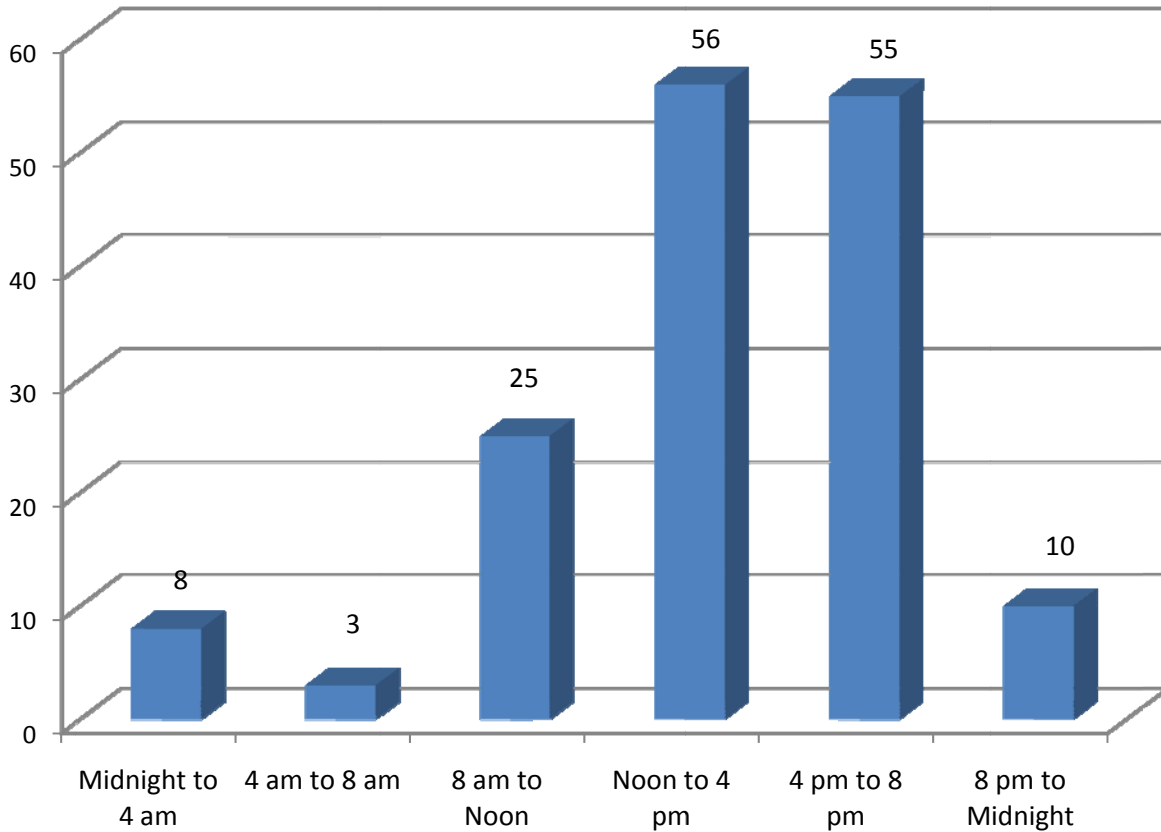


## Number of Accidents by Primary Cause All Accidents 2009

<b>Primary Cause</b>	<b>Number of Accidents</b>
Alcohol use	15
Careless	5
Congested waters	2
Dam/Lock	2
Equipment Failure	2
Excessive speed	9
Fireworks	1
Hazardous waters	25
Hull Failure	6
Improper Anchoring	1
Improper Loading	1
Machinery Failure	6
Medical	2
Negligent Operation	3
No Proper Lookout	9
Occupant Behavior	5
Off throttle Steering	2
Operator Inattention	14
Operator Inexperience	8
Overloading	1
Sharp Turn	4
Skier Behavior	6
Undetermined	12
Viol. Nav. Rule	3
Vision Obstructed	5
Weather	8

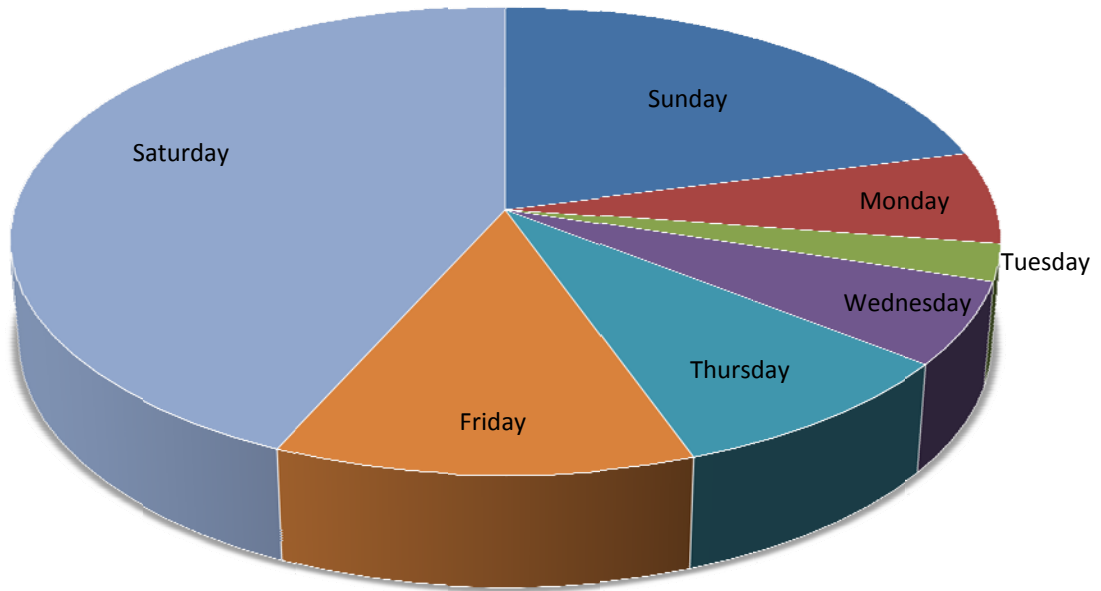


## Number of Accidents by Time Period All Accidents 2009



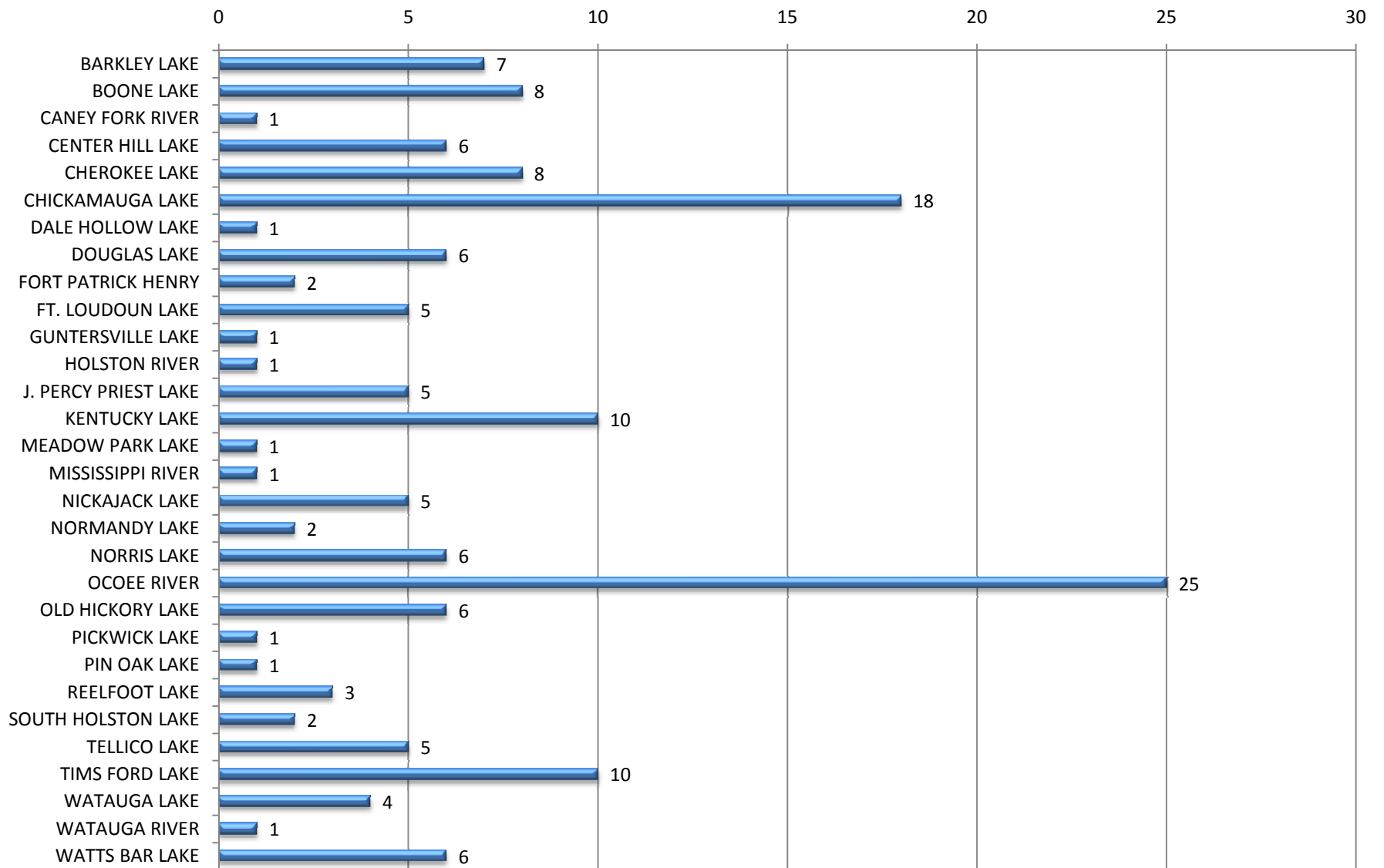
<b>Time Period</b>	<b>Number of Accidents</b>
Midnight to 4 am	8
4 am to 8 am	3
8 am to Noon	25
Noon to 4 pm	56
4 pm to 8 pm	55
8 pm to Midnight	10

## Number of Accidents by Day of Week All Accidents 2009



Day of the Week	Number of Accidents
Sunday	33
Monday	10
Tuesday	4
Wednesday	9
Thursday	14
Friday	19
Saturday	68

## Number of Accidents by Body of Water All Accidents 2009

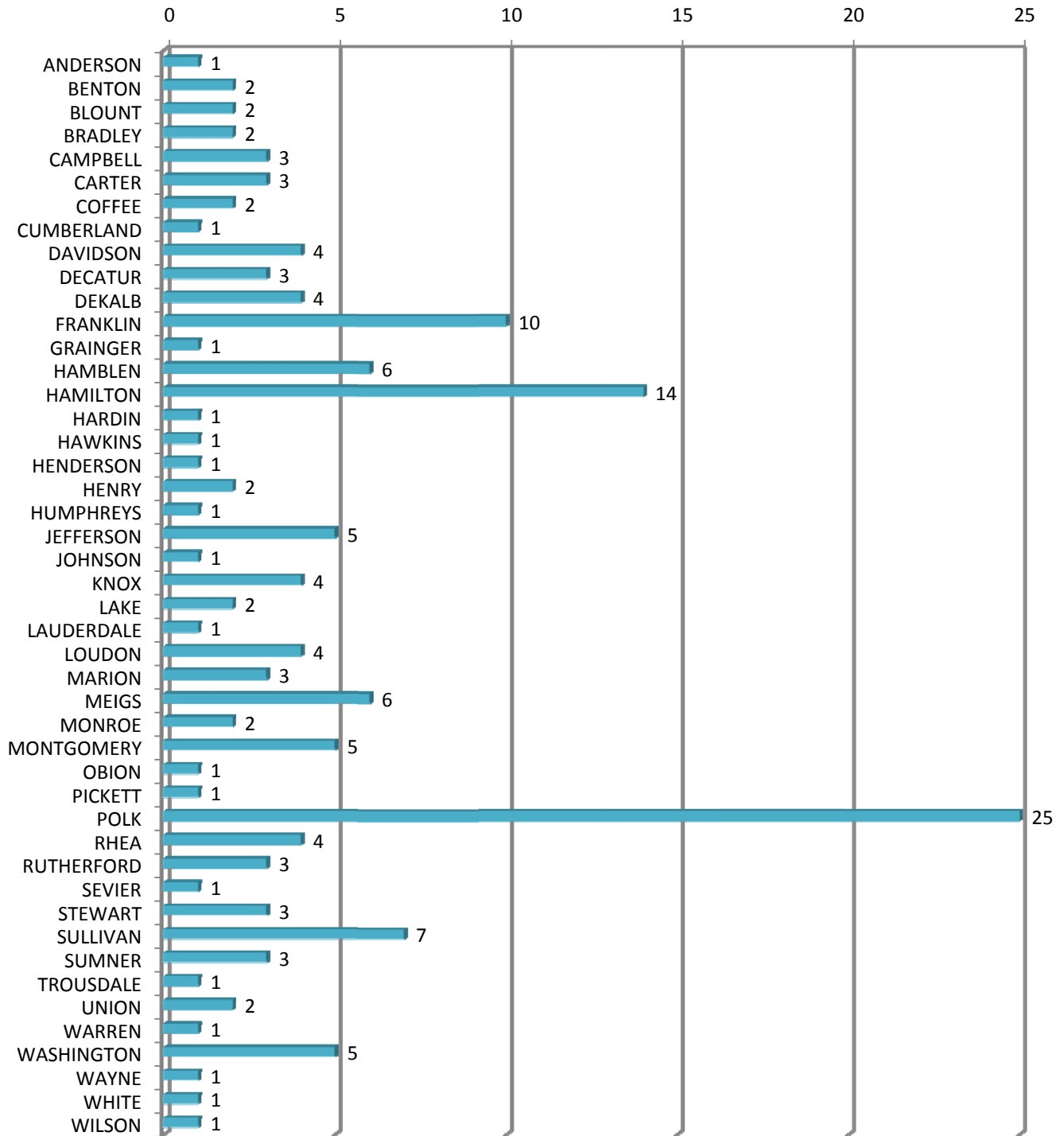


## Number of Accidents by Body of Water All Accidents 2009

Body of Water	Number of Accidents
BARKLEY LAKE	7
BOONE LAKE	8
CANEY FORK RIVER	1
CENTER HILL LAKE	6
CHEROKEE LAKE	8
CHICKAMAUGA LAKE	18
DALE HOLLOW LAKE	1
DOUGLAS LAKE	6
FORT PATRICK HENRY	2
FT. LOUDOUN LAKE	5
GUNTERSVILLE LAKE	1
HOLSTON RIVER	1
J. PERCY PRIEST LAKE	5
KENTUCKY LAKE	10
MEADOW PARK LAKE	1
MISSISSIPPI RIVER	1
NICKAJACK LAKE	5
NORMANDY LAKE	2
NORRIS LAKE	6
OCOEE RIVER	25*
OLD HICKORY LAKE	6
PICKWICK LAKE	1
PIN OAK LAKE	1
REELFOOT LAKE	3
SOUTH HOLSTON LAKE	2
TELLICO LAKE	5
TIMS FORD LAKE	10
WATAUGA LAKE	4
WATAUGA RIVER	1
WATTS BAR LAKE	6

\*Ocoee River accidents represent commercial whitewater activities

## Number of Accidents by County All Accidents 2009



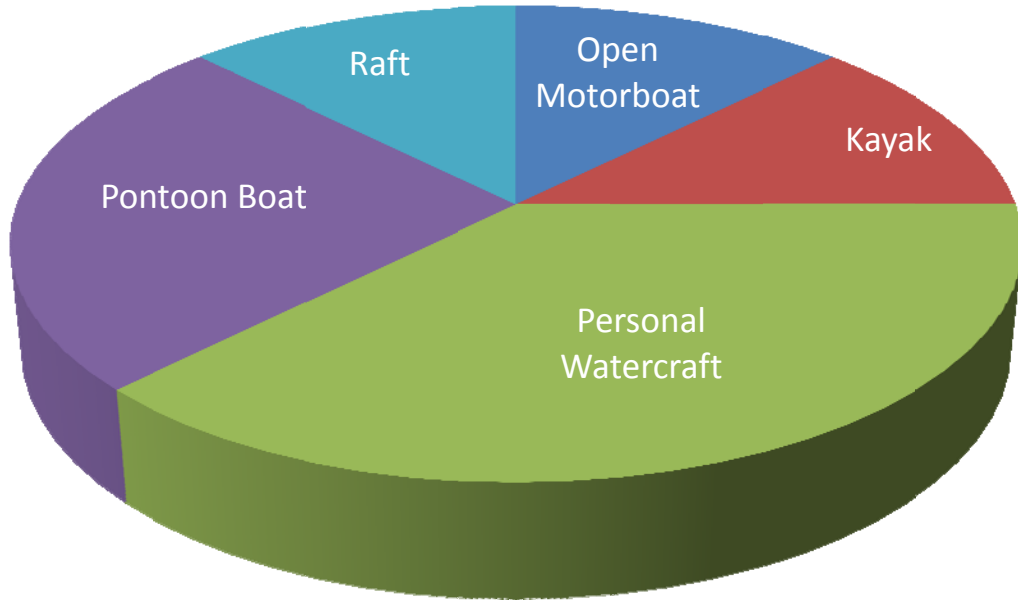
Number of Accidents  
By County

All Accidents 2009

County	Number of Accidents
ANDERSON	1
BENTON	2
BLOUNT	2
BRADLEY	2
CAMPBELL	3
CARTER	3
COFFEE	2
CUMBERLAND	1
DAVIDSON	4
DECATUR	3
DEKALB	4
FRANKLIN	10
GRAINGER	1
HAMBLEN	6
HAMILTON	14
HARDIN	1
HAWKINS	1
HENDERSON	1
HENRY	2
HUMPHREYS	1
JEFFERSON	5
JOHNSON	1
KNOX	4
LAKE	2
LAUDERDALE	1
LOUDON	4
MARION	3
MEIGS	6
MONROE	2
MONTGOMERY	5
OBION	1
PICKETT	1
POLK	25
RHEA	4
RUTHERFORD	3
SEVIER	1
STEWART	3
SULLIVAN	7
SUMNER	3
TROUSDALE	1
UNION	2
WARREN	1
WASHINGTON	5
WAYNE	1
WHITE	1
WILSON	1

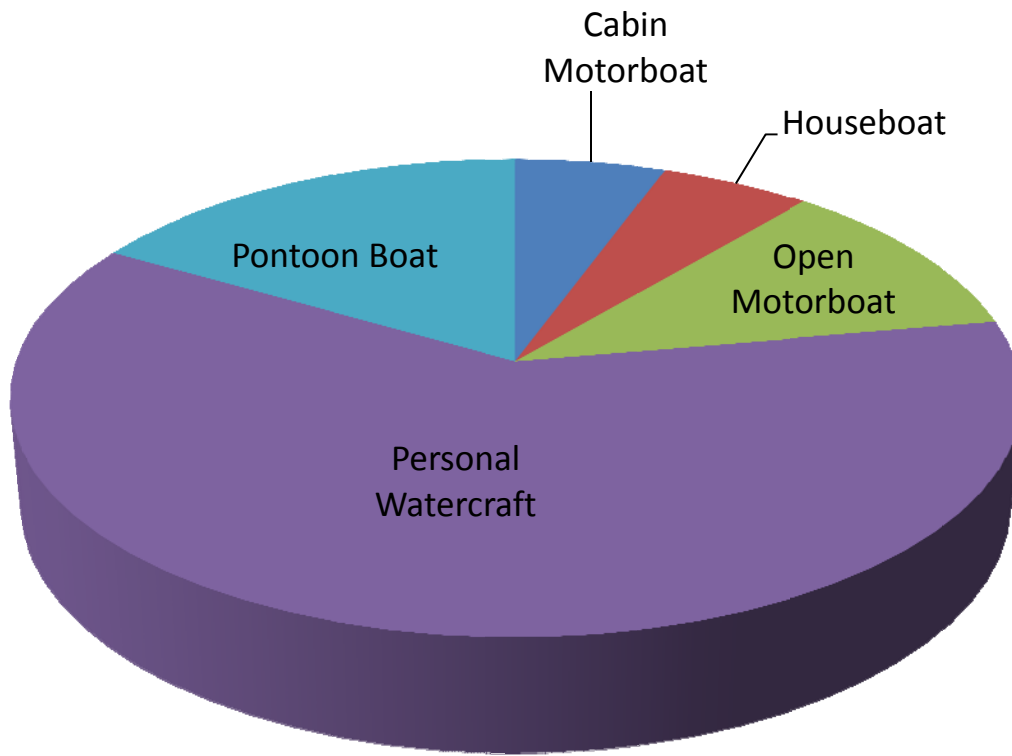


## Number of Rented Vessels by Vessel Type All Accidents 2009



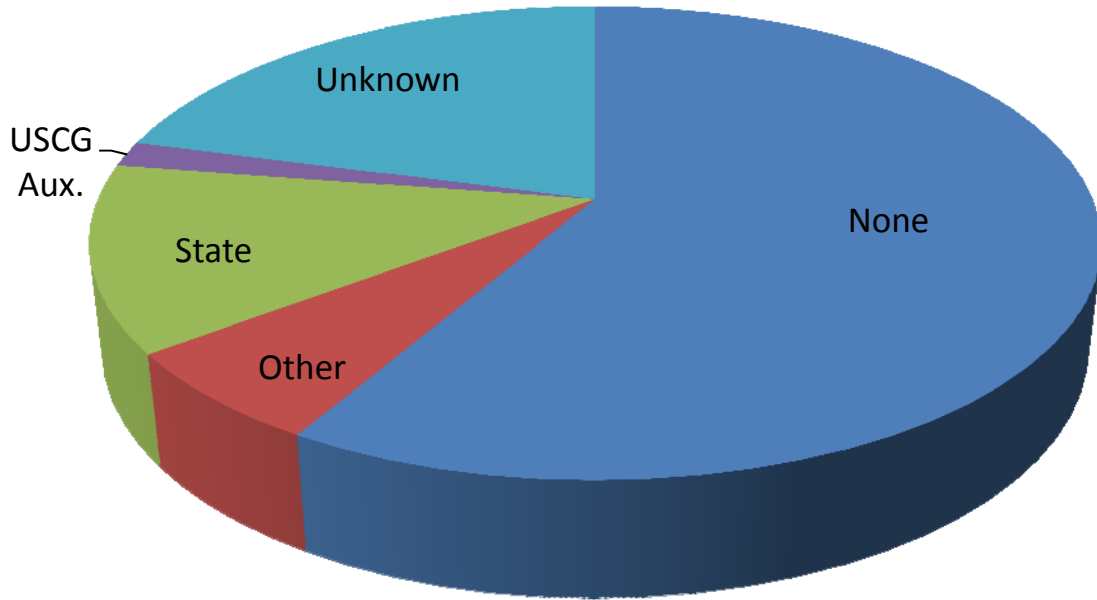
Vessel Type	Number of Vessels
Open Motorboat	1
Kayak	1
Personal Watercraft	3
Pontoon Boat	2
Raft	1

## Number of Borrowed Vessels by Vessel Type All Accidents 2009



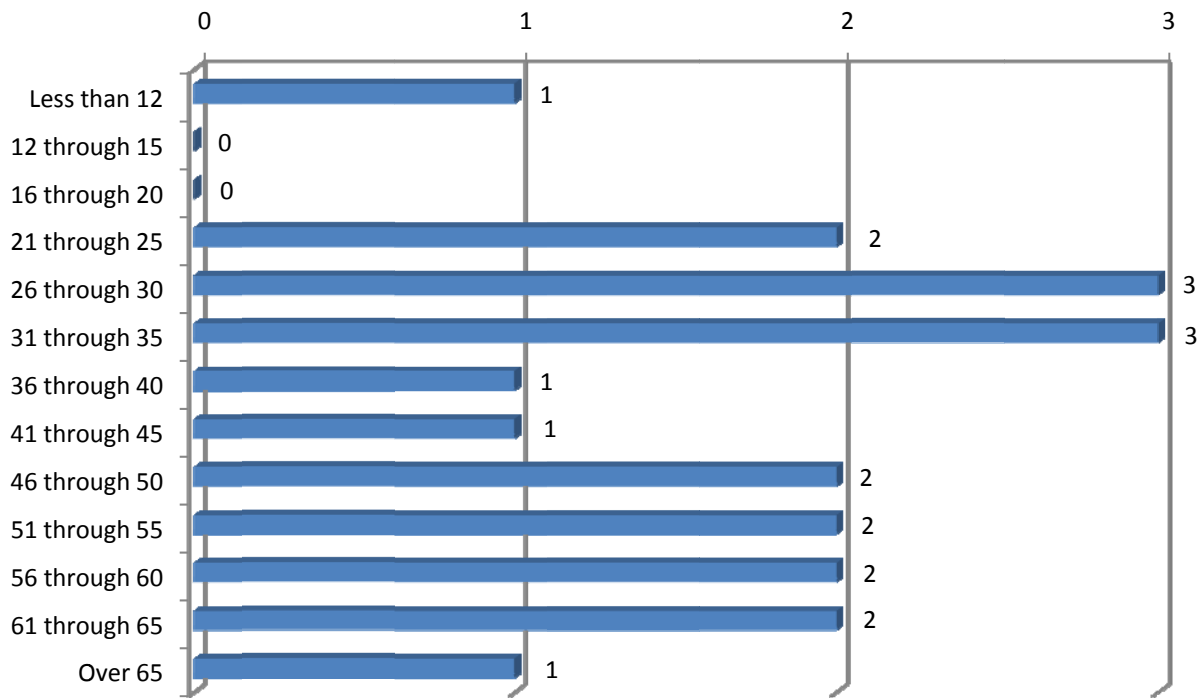
Vessel Type	Number of Vessels
Cabin Motorboat	1
Houseboat	1
Open Motorboat	2
Personal Watercraft	11
Pontoon Boat	3

## Number of Operators by Boat Education Type All Accidents 2009



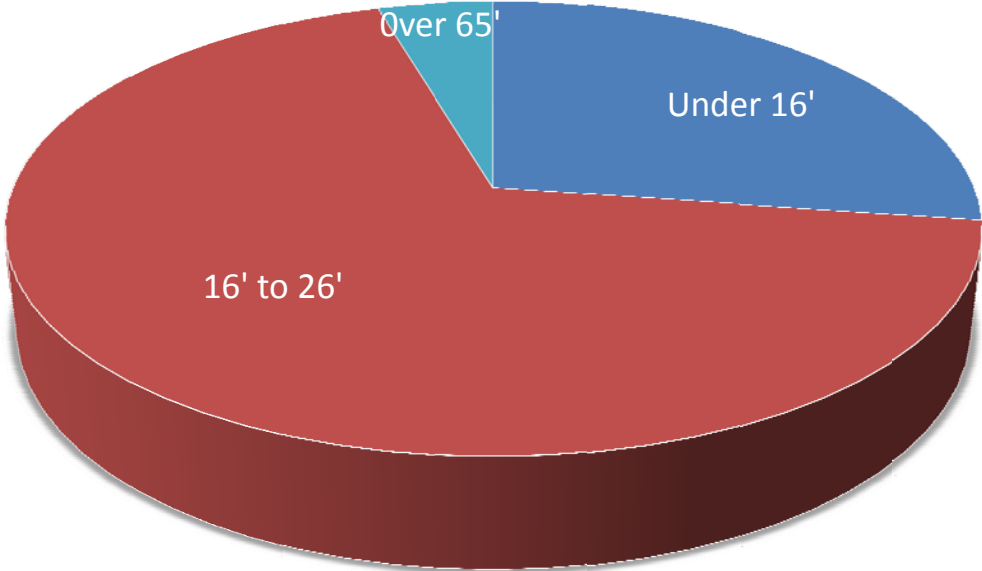
Education Type	Number of Operators
None	101
Other	11
State	22
USCG Aux.	3
Unknown	36

## Number of Operators by Age Category Fatal Accidents 2009



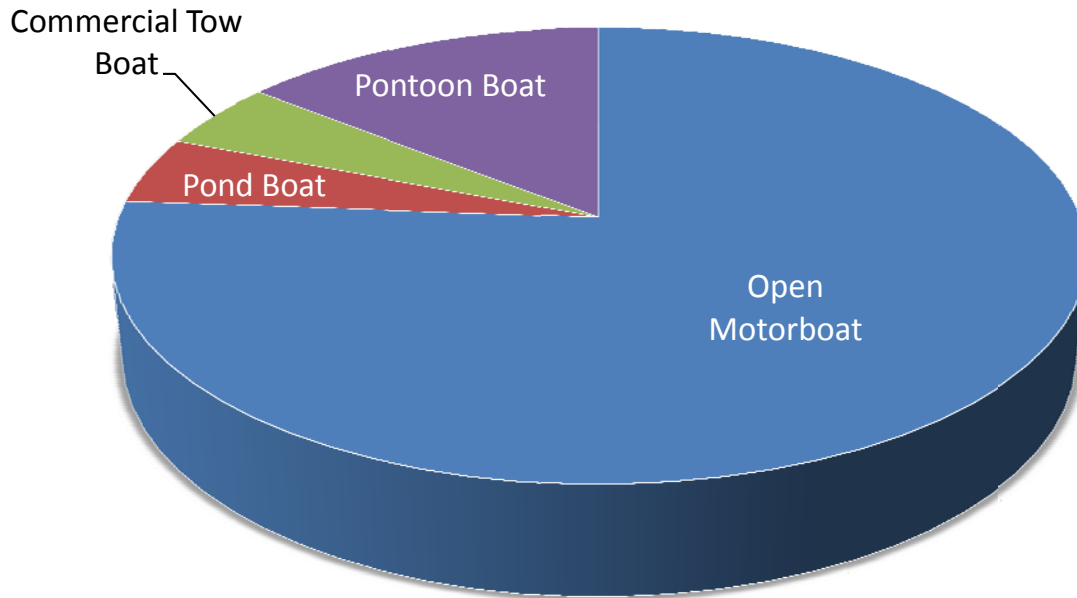
Operator Ages	Number of Operators
Less than 12	1
12 through 15	0
16 through 20	0
21 through 25	2
26 through 30	3
31 through 35	3
36 through 40	1
41 through 45	1
46 through 50	2
51 through 55	2
56 through 60	2
61 through 65	2
Over 65	1
<b>Total</b>	<b>20</b>

**Number of Vessels by Vessel Length  
Fatal Accidents 2009**



<b>Vessel Length</b>	<b>Number of Vessels</b>
Under 16'	6
16' to 26'	15
26' to 40'	0
40' to 65'	0
Over 65'	1

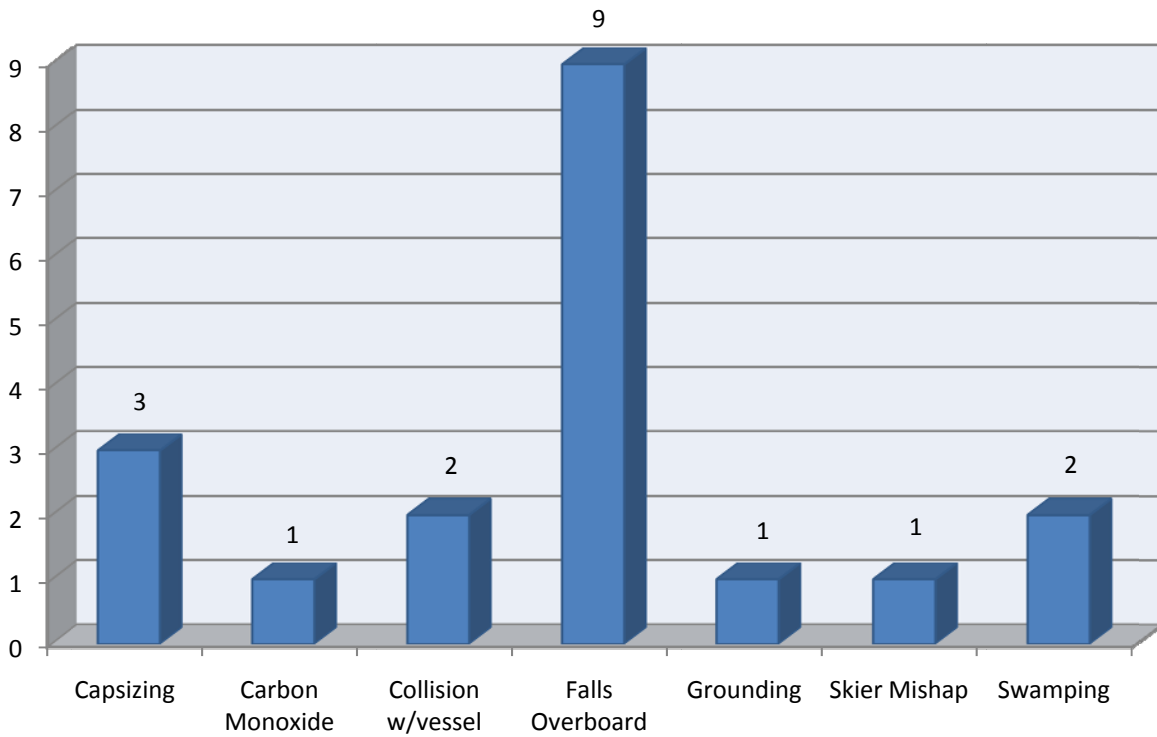
## Number of Vessels by Vessel Type Fatal Accidents 2009



Vessel Type	Number of Vessels
Open Motorboat	16
Pond Boat	1
Commercial Tow Boat	1
Pontoon Boat	3

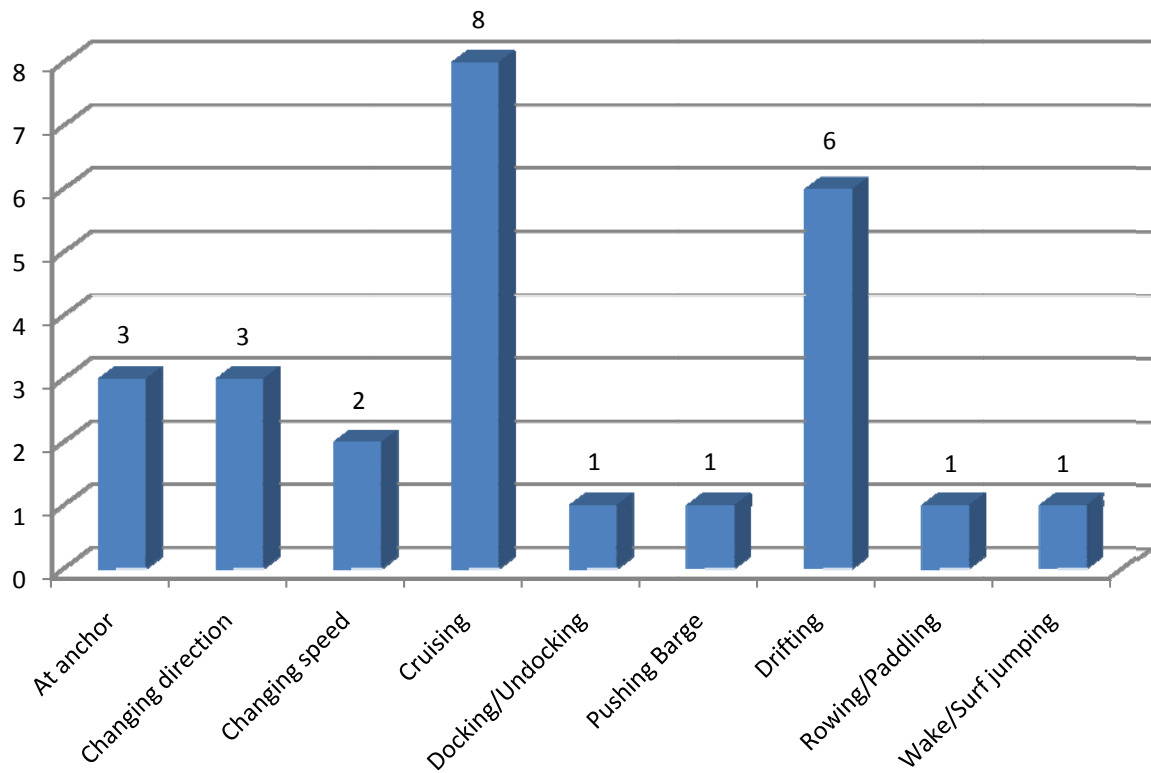


## Number of Accidents by Accident Type Fatal Accidents 2009



<b>Accident Type</b>	<b>Number of Accidents</b>
Capsizing	3
Carbon Monoxide	1
Collision w/vessel	2
Falls Overboard	9
Grounding	1
Skier Mishap	1
Swamping	2

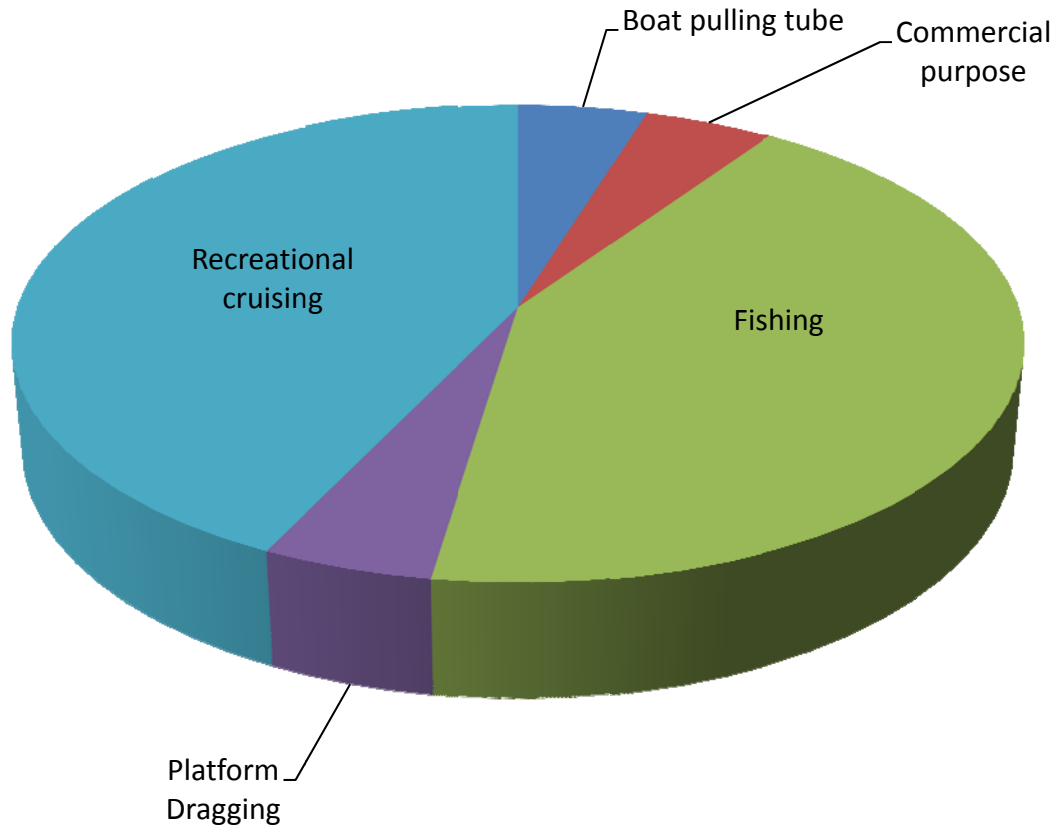
## Operation at time of accident Fatal accidents 2009



### Vessel Operation      Frequency

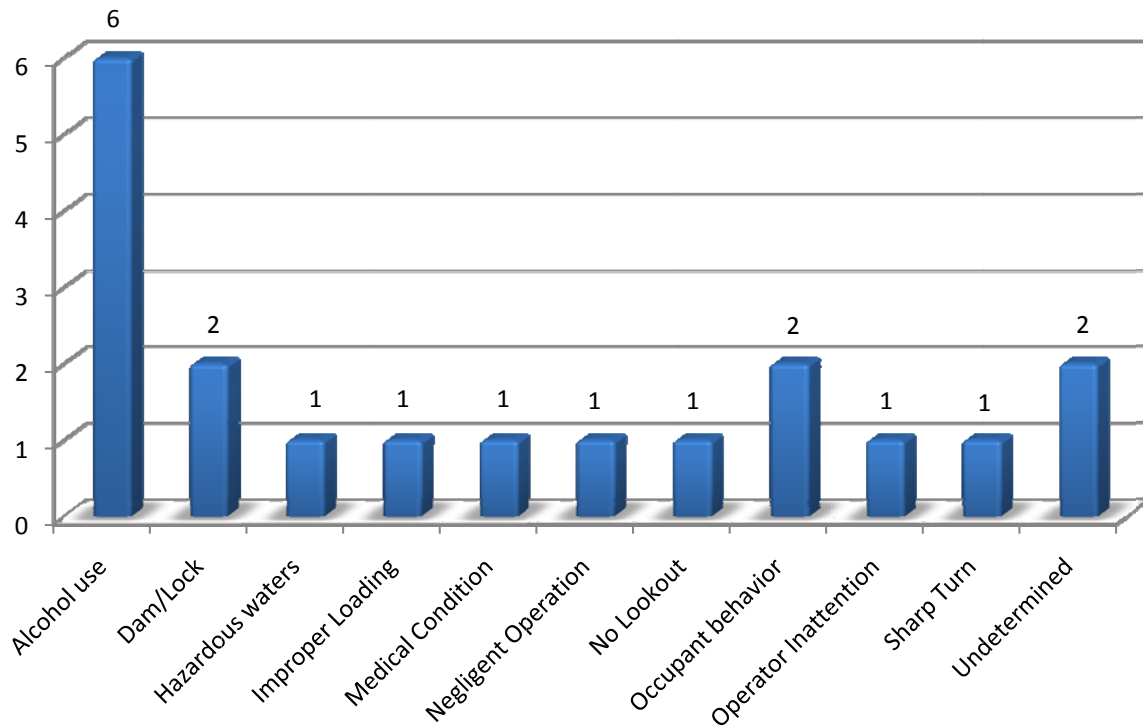
At anchor	3
Changing direction	3
Changing speed	2
Cruising	8
Docking/Undocking	1
Pushing Barge	1
Drifting	6
Rowing/Paddling	1
Wake/Surf jumping	1

## Number of vessels by activity at time of accident Fatal Accidents 2009



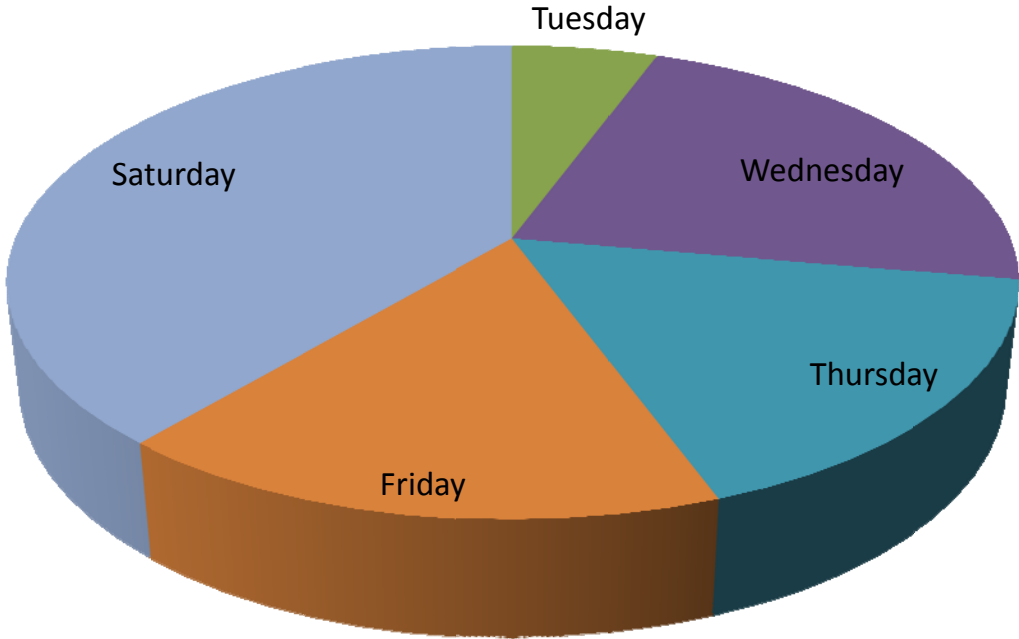
Activity	Number of vessels
Boat pulling tube	1
Commercial purpose	1
Fishing(recreational)	9
Platform Dragging	1
Recreational cruising	9

## Number of Accidents by Primary Cause Fatal Accidents 2009



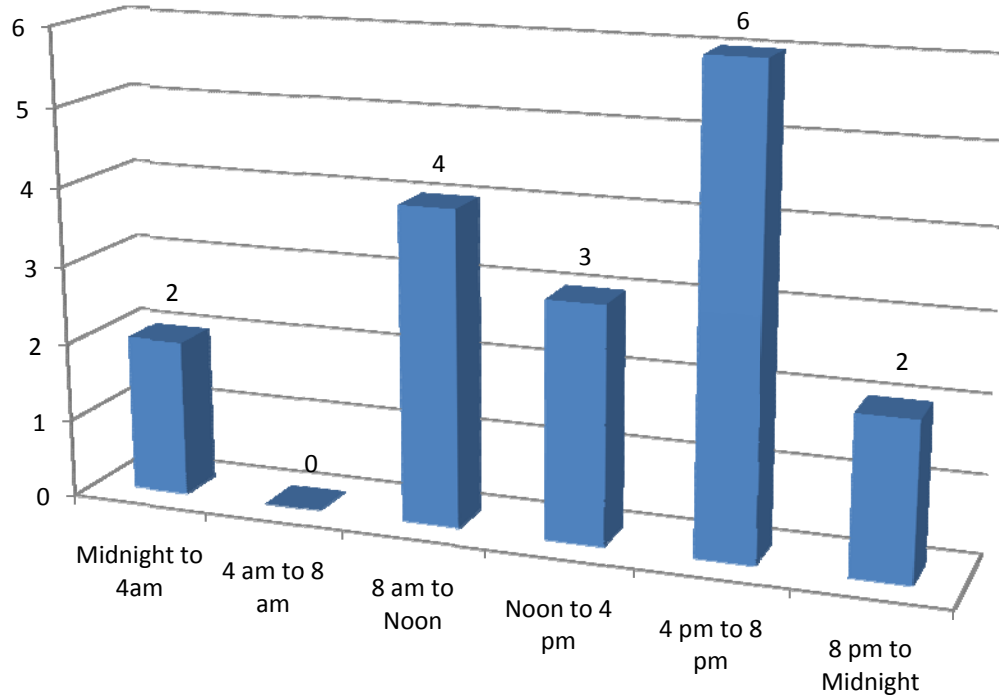
Primary Accident Cause	Number of Accidents
Alcohol use	6
Dam/Lock	2
Hazardous waters	1
Improper Loading	1
Medical Condition	1
Negligent Operation	1
No Lookout	1
Occupant behavior	2
Operator Inattention	1
Sharp Turn	1
Undetermined	2

# Number of Accidents by Day of Week Fatal Accidents 2009



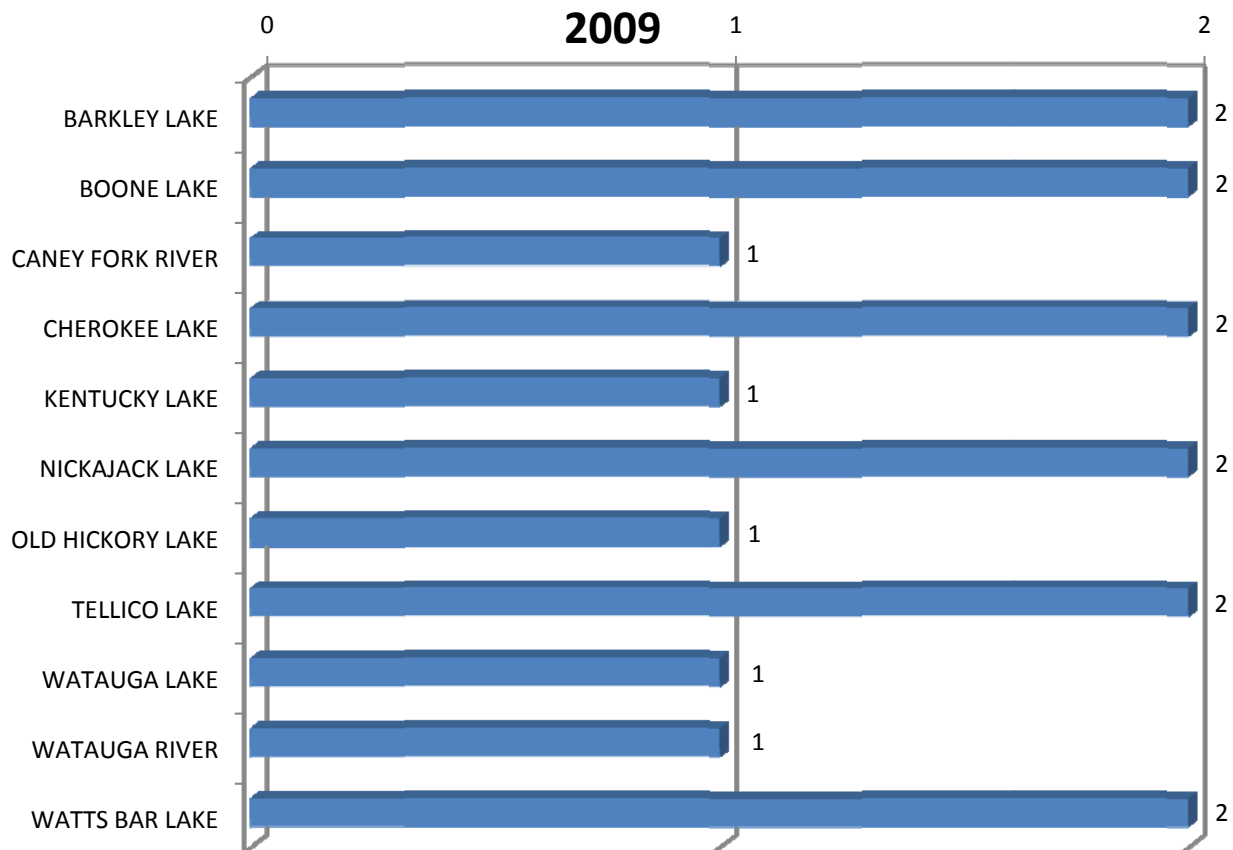
Day of the Week	Number of Accidents
Sunday	0
Monday	0
Tuesday	1
Wednesday	4
Thursday	3
Friday	3
Saturday	7

## Number of Accidents by Time of Day Fatal Accidents 2009



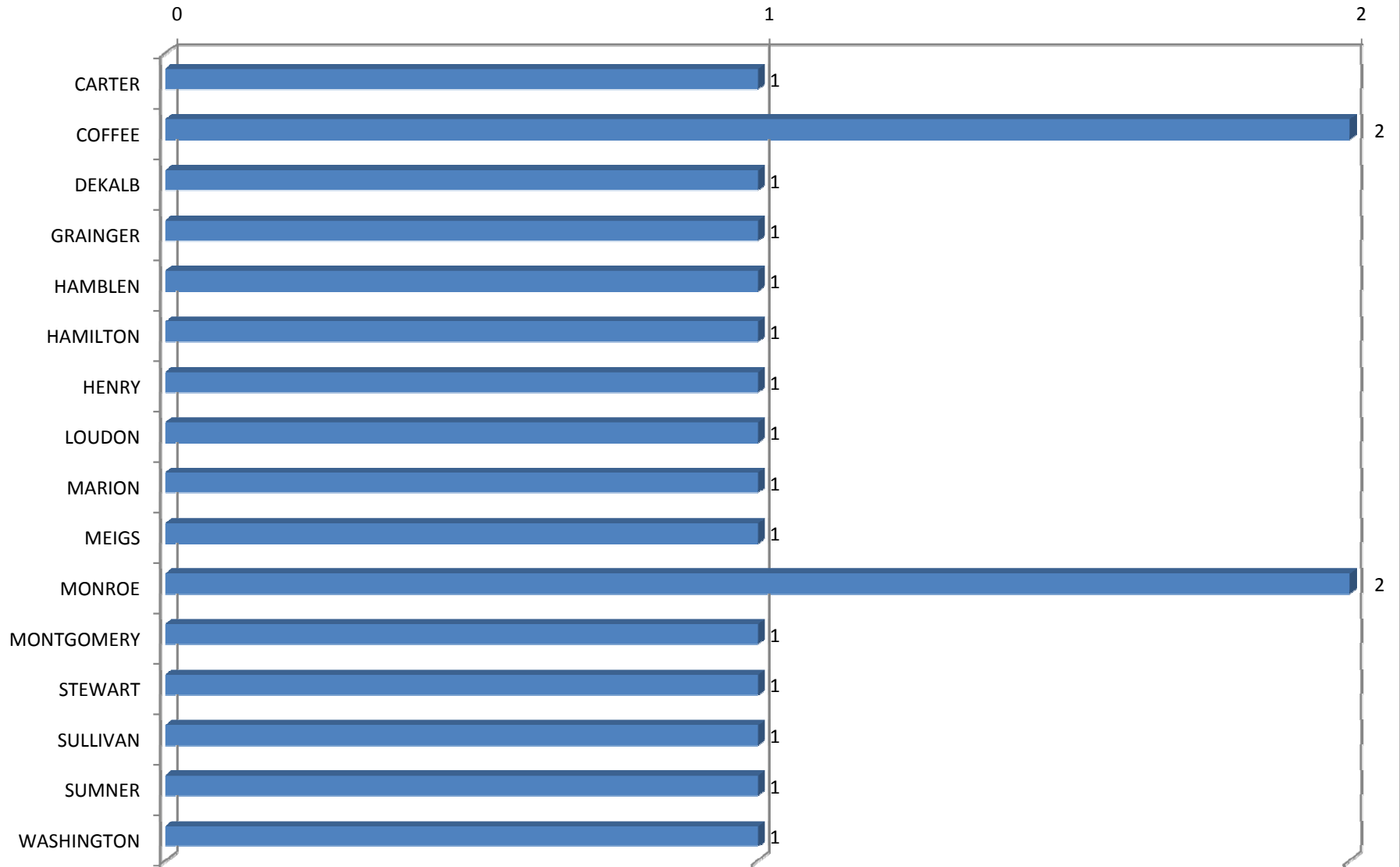
<b>Time of Day</b>	<b>Number of Accidents</b>
Midnight to 4am	2
4 am to 8 am	0
8 am to Noon	4
Noon to 4 pm	3
4 pm to 8 pm	6
8 pm to Midnight	2

## Number of Fatal Accidents By Body of Water



Body of Water	Number of Fatal Accidents
BARKLEY LAKE	2
BOONE LAKE	2
CANEY FORK RIVER	1
CHEROKEE LAKE	2
KENTUCKY LAKE	1
NICKAJACK LAKE	2
OLD HICKORY LAKE	1
TELLICO LAKE	2
WATAUGA LAKE	1
WATAUGA RIVER	1
WATTS BAR LAKE	2

## Number of Accidents by County Fatal Accidents 2009

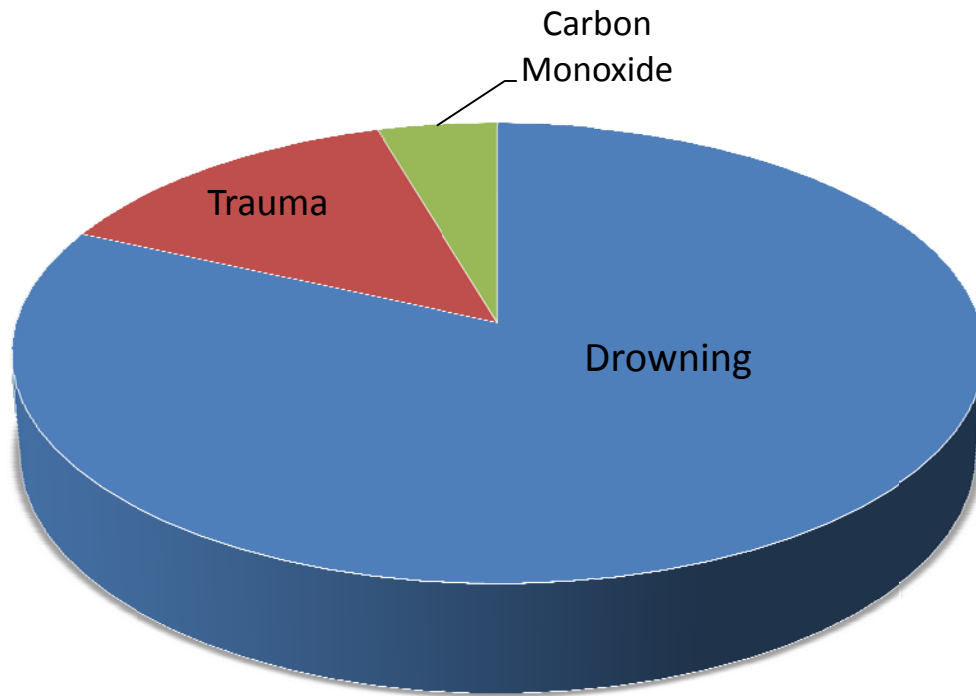




## Number of Accidents by County Fatal Accidents 2009

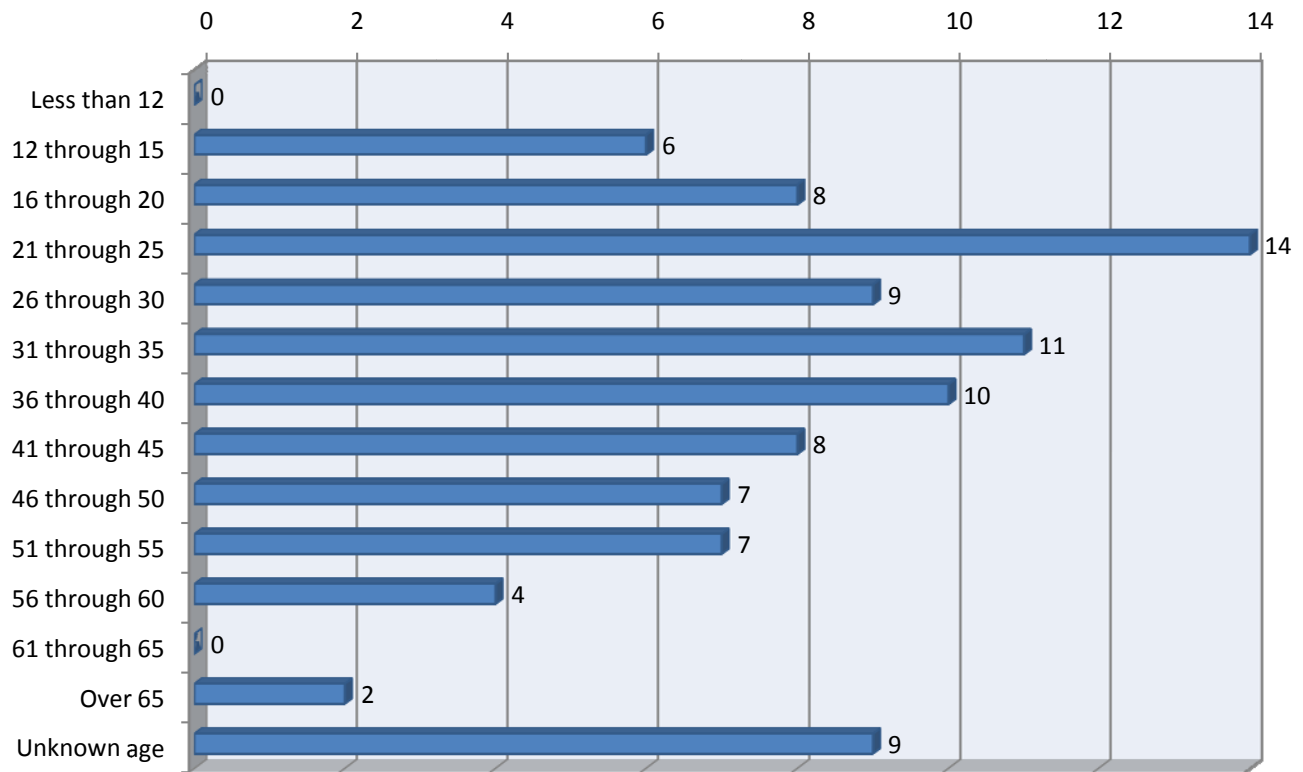
<b>County</b>	<b>Number of Accidents</b>
CARTER	1
COFFEE	2
DEKALB	1
GRAINGER	1
HAMBLEN	1
HAMILTON	1
HENRY	1
LOUDON	1
MARION	1
MEIGS	1
MONROE	2
MONTGOMERY	1
STEWART	1
SULLIVAN	1
SUMNER	1
WASHINGTON	1

## Cause of Death for Fatal Accidents 2009



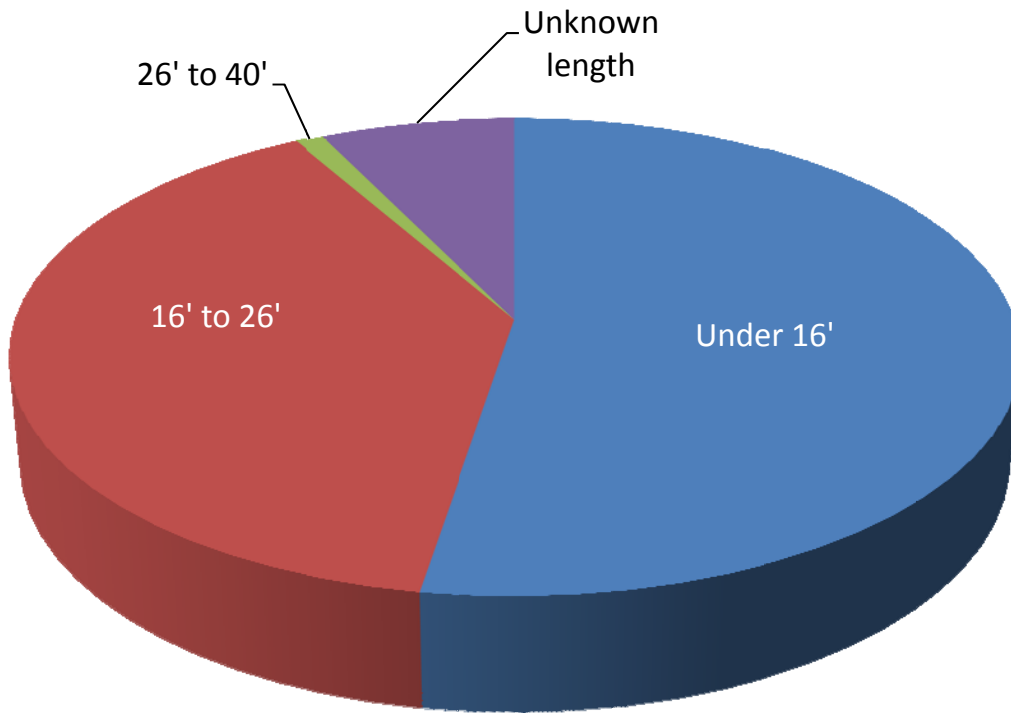
<b>Cause of Death</b>	<b>Number of Victims</b>
Drowning	18
Trauma	3
Carbon Monoxide	1

## Number of Operators by Age Groups Injury Accidents 2009



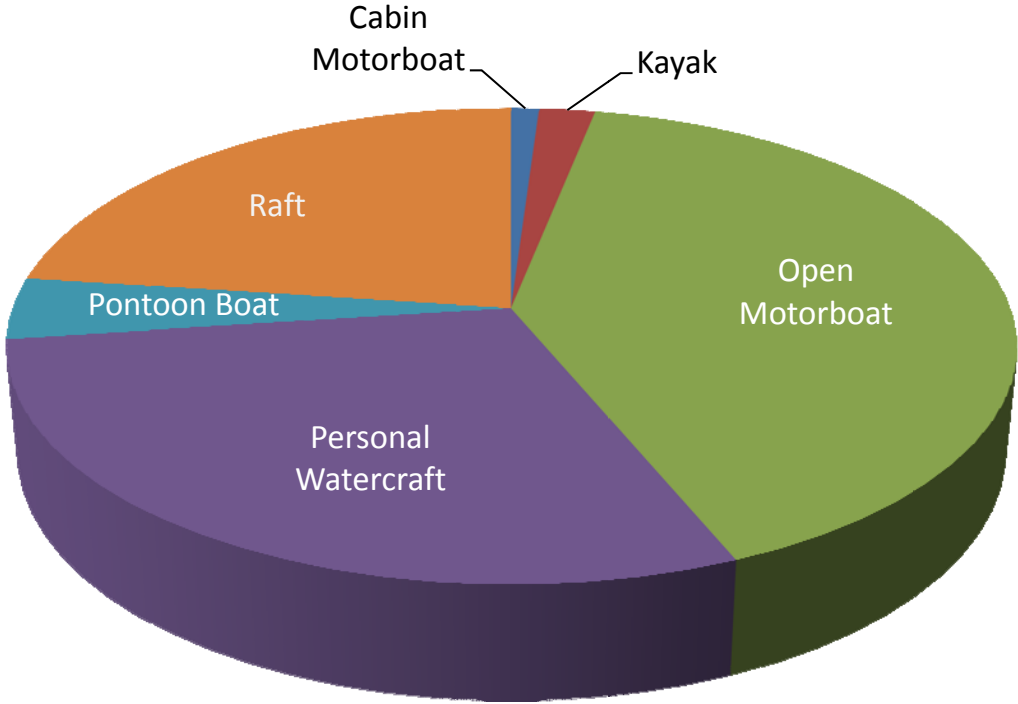
<b>Operator Ages</b>	<b>Number of Operators</b>
Less than 12	0
12 through 15	6
16 through 20	8
21 through 25	14
26 through 30	9
31 through 35	11
36 through 40	10
41 through 45	8
46 through 50	7
51 through 55	7
56 through 60	4
61 through 65	0
Over 65	2
Unknown age	9

## Number of Vessels Involved in Accidents by Length Category - Injury Accidents 2009



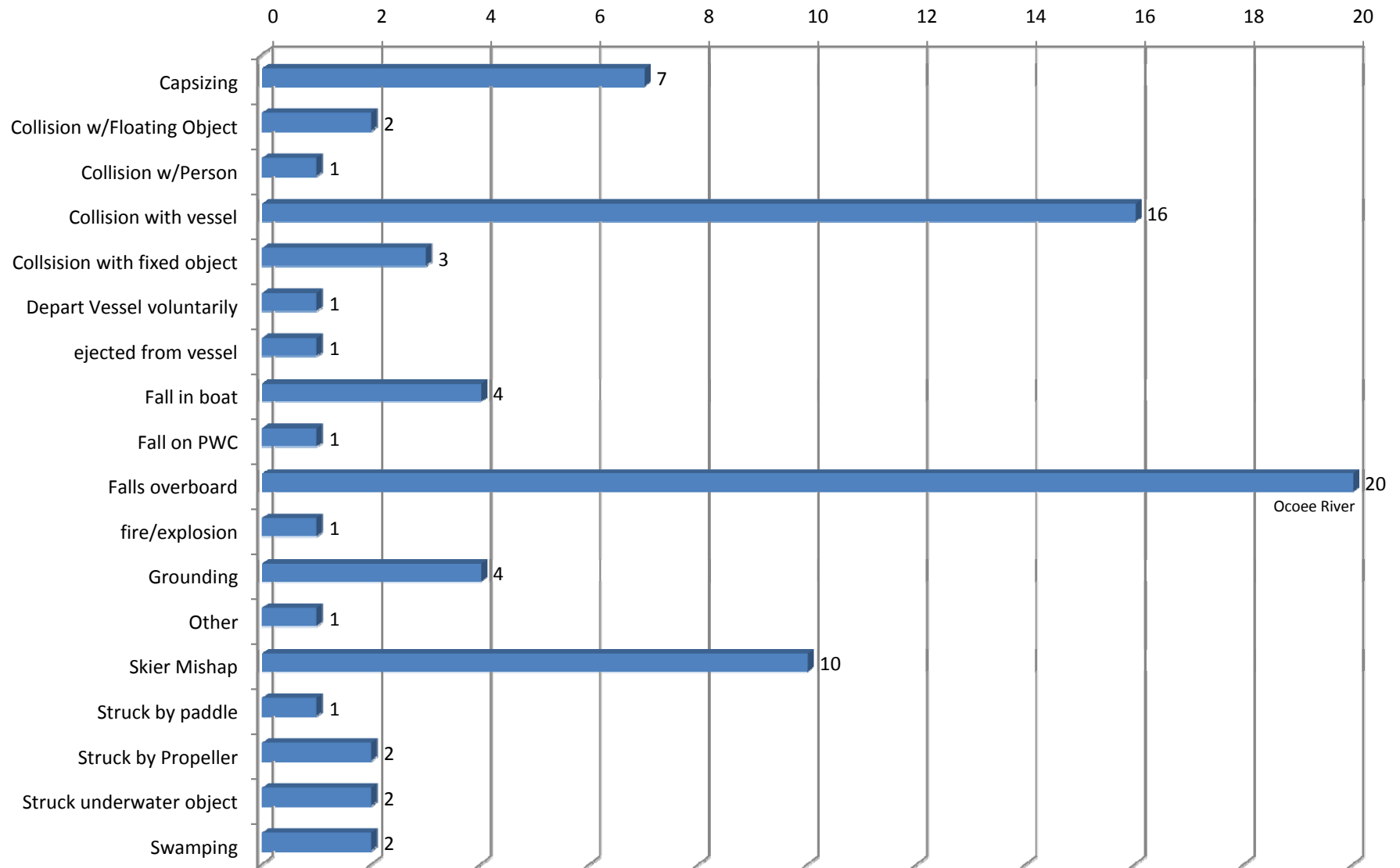
Vessel Length Category	No. of Vessels
Under 16'	51
16' to 26'	38
26' to 40'	1
40' to 65'	0
over 65'	0
Unknown length	7

## Number of Vessels by Vessel Type Injury Accidents 2009



Vessel Type	Number of Vessels
Cabin Motorboat	1
Kayak	2
Open Motorboat	39
Personal Watercraft	28
Pontoon Boat	4
Raft	22

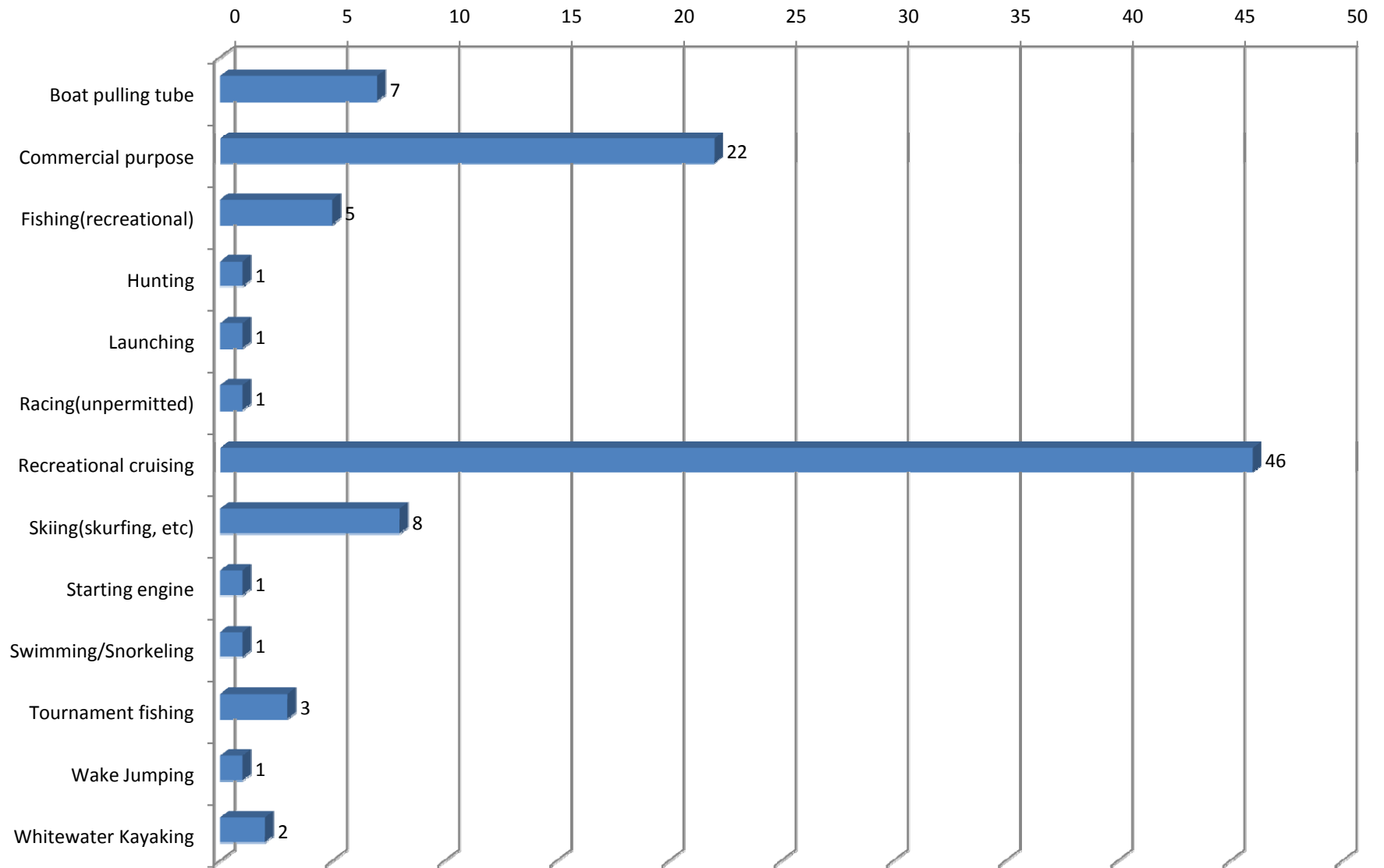
## Number of Accidents by Accident Type Injury Accidents 2009



## Number of Accidents by Primary Accident Type Injury Accidents 2009

<b>Accident Type</b>	<b>Number of Accidents</b>
Capsizing	7
Collision w/Floating Object	2
Collision w/Person	1
Collision with vessel	16
Collision with fixed object	3
Depart Vessel voluntarily	1
Ejected from vessel	1
Fall in boat	4
Fall on PWC	1
Falls overboard	20
Fire/explosion	1
Grounding	4
Other	1
Skier Mishap	10
Struck by paddle	1
Struck by Propeller	2
Struck underwater object	2
Swamping	2

## Number of Vessels by Activity During Accident Injury Accidents 2009

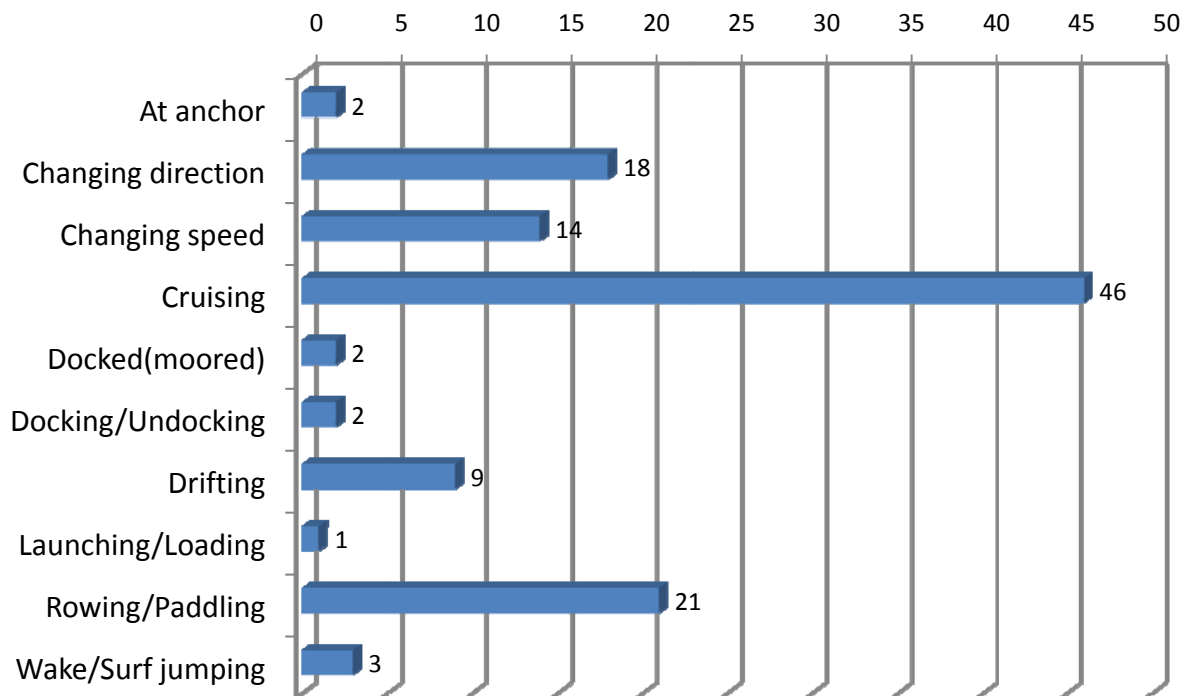




## Number of Vessels Involved by Activity Injury Accidents 2009

<b>Activity</b>	<b>Number of Vessels</b>
Boat pulling tube	7
Commercial purpose	22
Fishing(recreational)	5
Hunting	1
Launching	1
Racing(unpermitted)	1
Recreational cruising	46
Skiing(skurfing, etc)	8
Starting engine	1
Swimming/Snorkeling	1
Tournament fishing	3
Wake Jumping	1
Whitewater Kayaking	2

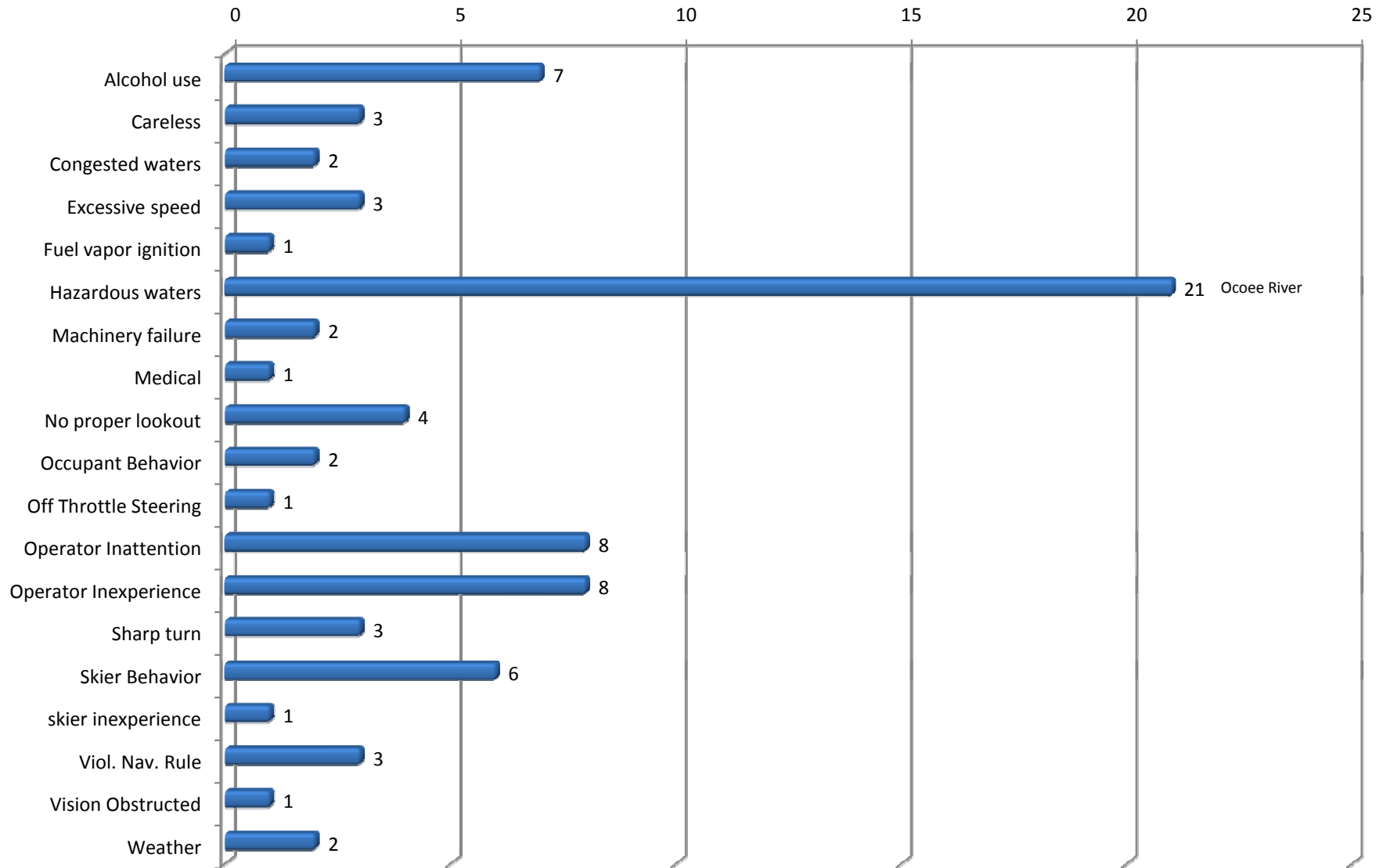
## Frequency of Operation by Vessels Involved in Accidents - Injury Accidents 2009



### Vessel Operation      Frequency

Vessel Operation	Frequency
At anchor	2
Changing direction	18
Changing speed	14
Cruising	46
Docked(moored)	2
Docking/Undocking	2
Drifting	9
Launching/Loading	1
Rowing/Paddling	21
Wake/Surf jumping	3

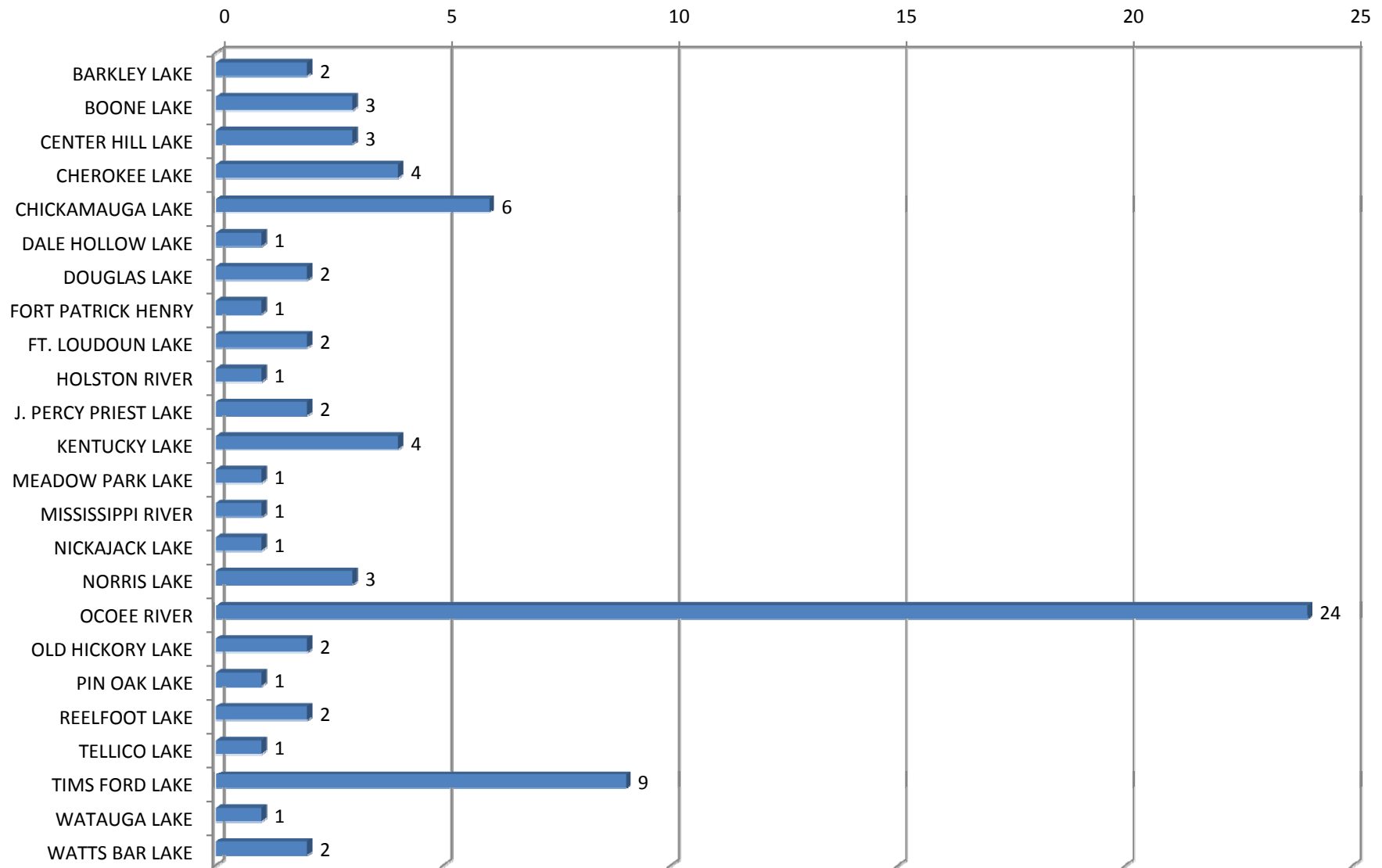
## Number of Accidents by Primary Cause Injury Accidents 2009



## Number of Accidents by Primary Cause Injury Accidents 2009

<b>Primary Cause</b>	<b>Number of Accidents</b>
Alcohol use	7
Careless	3
Congested waters	2
Excessive speed	3
Fuel vapor ignition	1
Hazardous waters	21
Machinery failure	2
Medical	1
No proper lookout	4
Occupant Behavior	2
Off Throttle Steering	1
Operator Inattention	8
Operator Inexperience	8
Sharp turn	3
Skier Behavior	6
Skier inexperience	1
Viol. Nav. Rule	3
Vision Obstructed	1
Weather	2

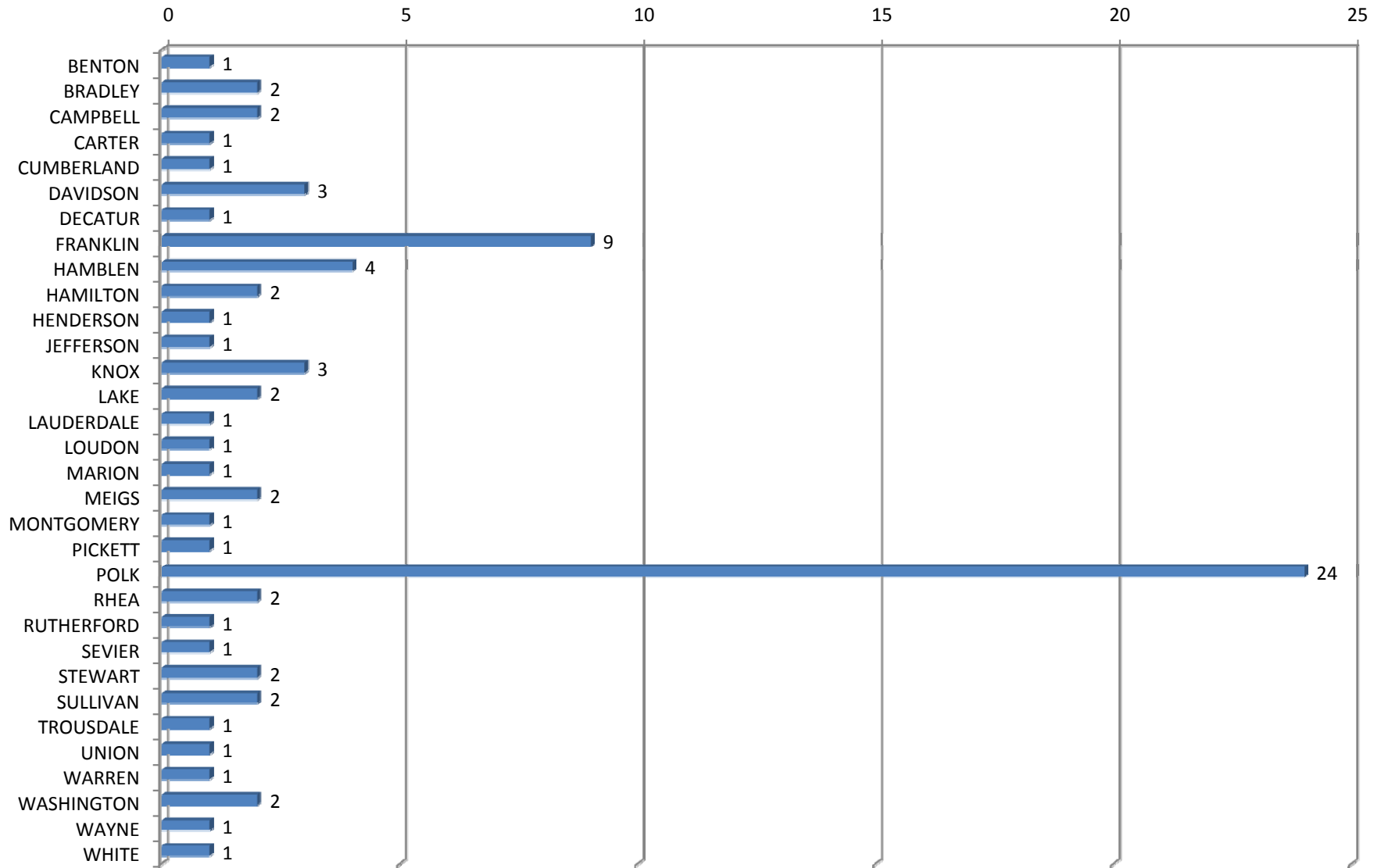
## Number of Accidents by Body of Water Injury Accidents 2009



## Number of Accidents by Body of Water Injury Accidents 2009

<b>Body of Water</b>	<b>Number of Accidents</b>
BARKLEY LAKE	2
BOONE LAKE	3
CENTER HILL LAKE	3
CHEROKEE LAKE	4
CHICKAMAUGA LAKE	6
DALE HOLLOW LAKE	1
DOUGLAS LAKE	2
FORT PATRICK HENRY	1
FT. LOUDOUN LAKE	2
HOLSTON RIVER	1
J. PERCY PRIEST LAKE	2
KENTUCKY LAKE	4
MEADOW PARK LAKE	1
MISSISSIPPI RIVER	1
NICKAJACK LAKE	1
NORRIS LAKE	3
OCOEE RIVER	24
OLD HICKORY LAKE	2
PIN OAK LAKE	1
REELFOOT LAKE	2
TELLICO LAKE	1
TIMS FORD LAKE	9
WATAUGA LAKE	1
WATTS BAR LAKE	2

## Number of Accidents by County Injury Accidents 2009

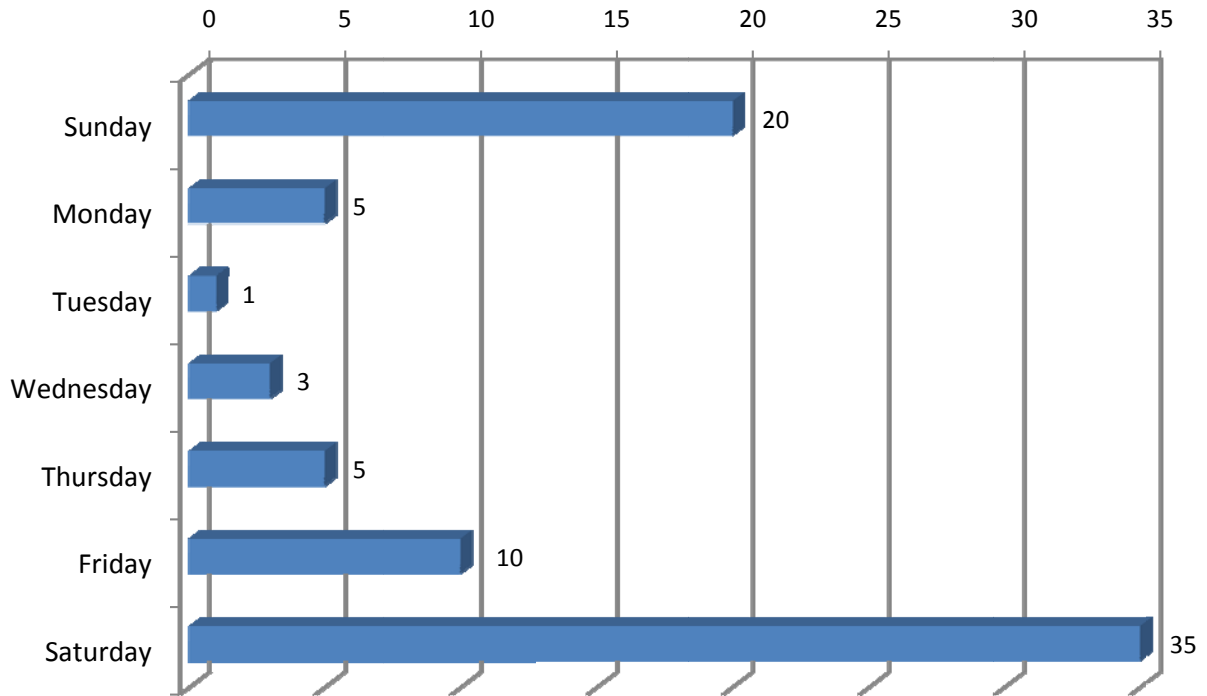


## Number of Accidents by County Injury Accidents 2009

County	Number of Accidents
BENTON	1
BRADLEY	2
CAMPBELL	2
CARTER	1
CUMBERLAND	1
DAVIDSON	3
DECATUR	1
FRANKLIN	9
HAMBLEN	4
HAMILTON	2
HENDERSON	1
JEFFERSON	1
KNOX	3
LAKE	2
LAUDERDALE	1
LOUDON	1
MARION	1
MEIGS	2
MONTGOMERY	1
PICKETT	1
POLK	24
RHEA	2
RUTHERFORD	1
SEVIER	1
STEWART	2
SULLIVAN	2
TROUSDALE	1
UNION	1
WARREN	1
WASHINGTON	2
WAYNE	1
WHITE	1

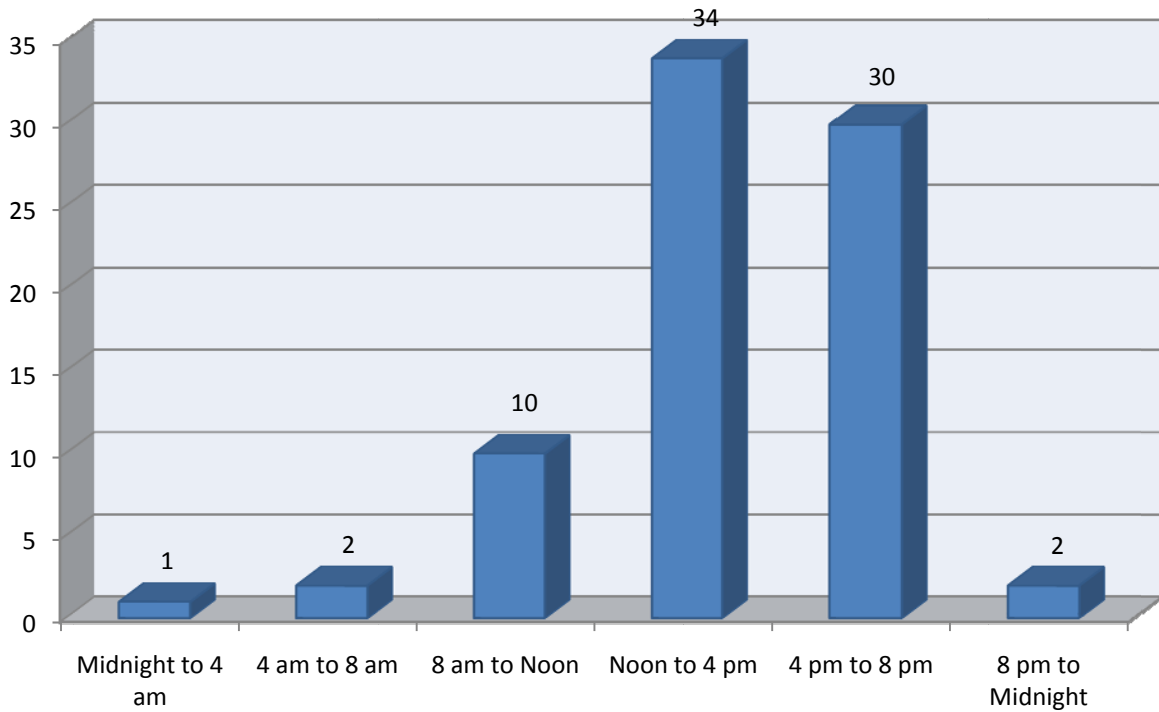


## Number of Accidents by Day of Week Injury Accidents 2009



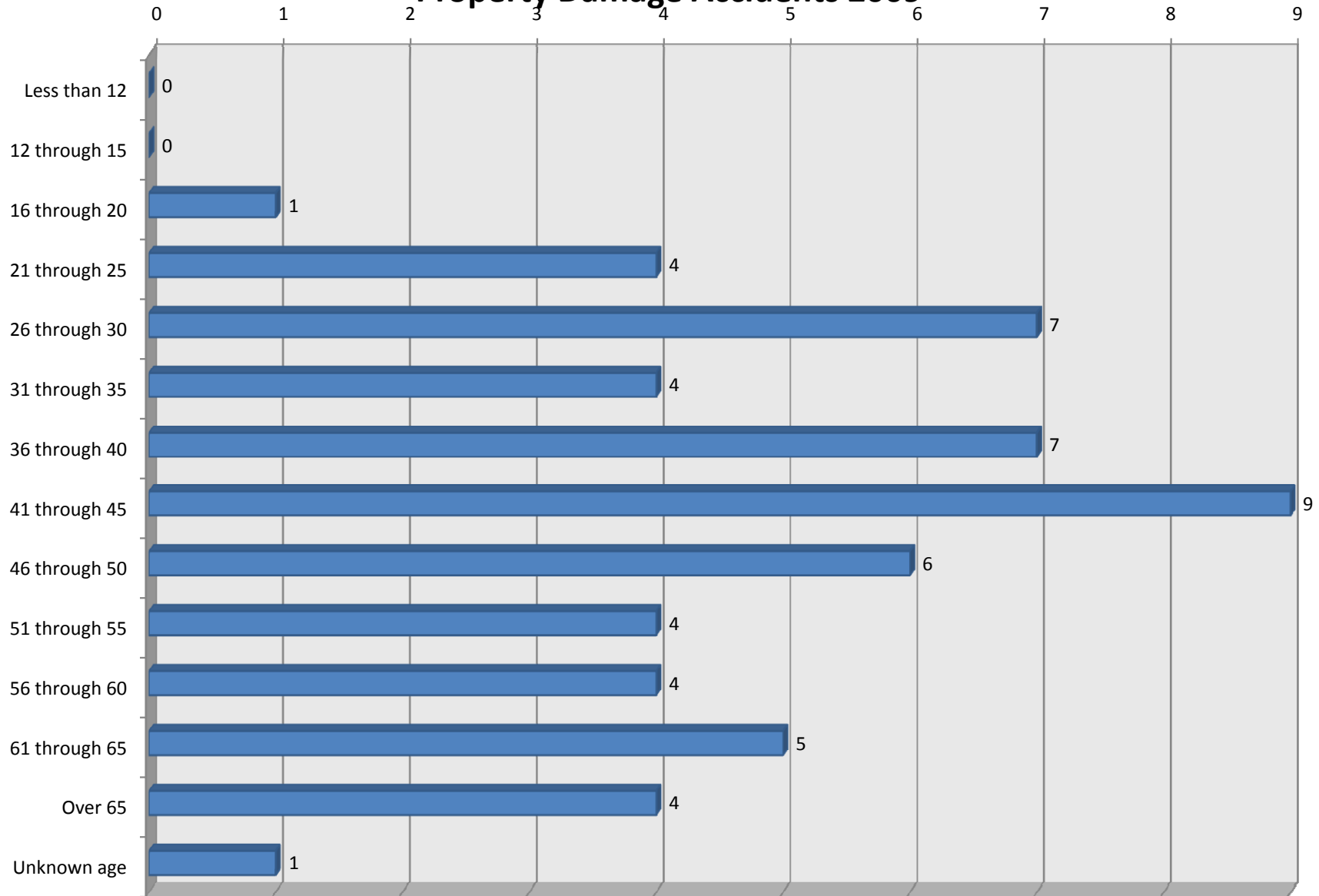
Day of Week	Number of Accidents
Sunday	20
Monday	5
Tuesday	1
Wednesday	3
Thursday	5
Friday	10
Saturday	35

## Number of Accidents by Time of Day Injury Accidents 2009



<b>Time Period</b>	<b>Number of Accidents</b>
Midnight to 4 am	1
4 am to 8 am	2
8 am to Noon	10
Noon to 4 pm	34
4 pm to 8 pm	30
8 pm to Midnight	2

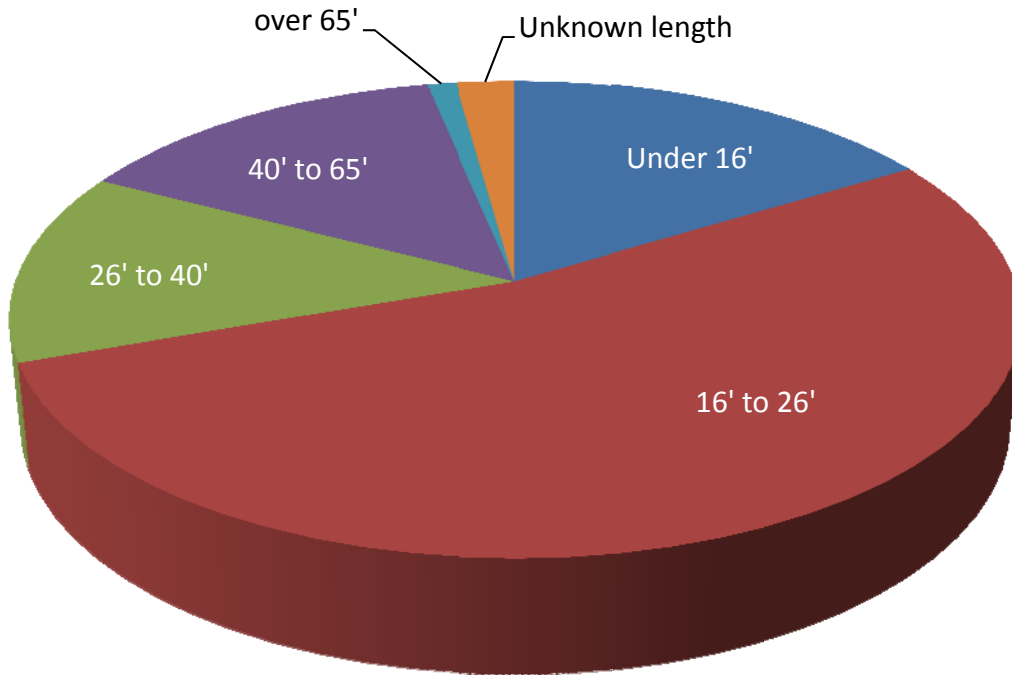
## Number of Operators by Age Category Property Damage Accidents 2009



## Number of Vessel Operators by Age Group Property Damage Accidents 2009

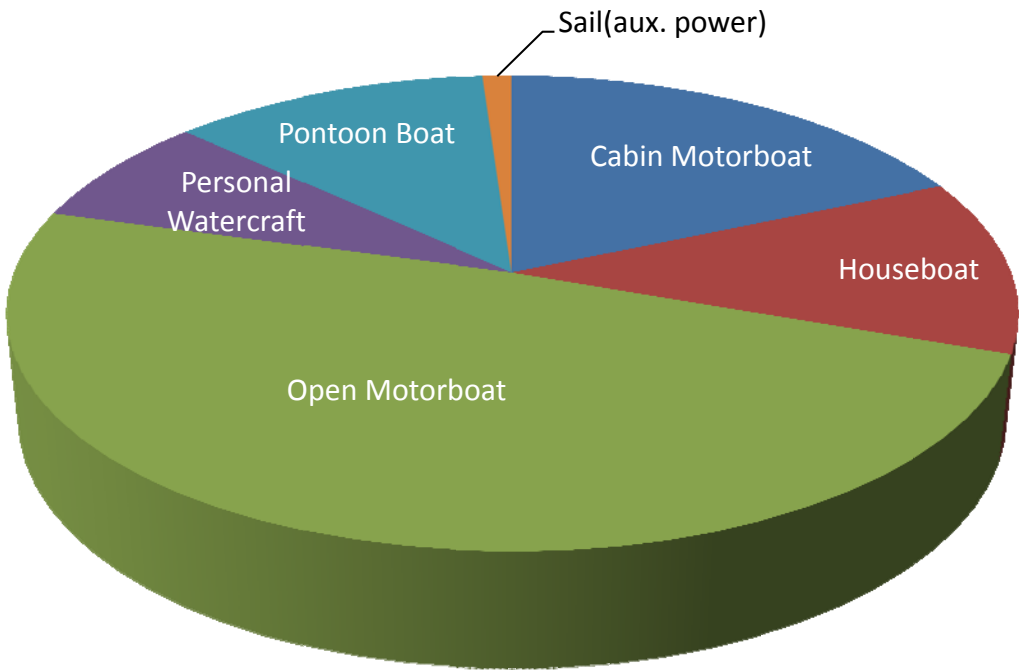
<b>Operator Ages</b>	<b>Number of Operators</b>
Less than 12	0
12 through 15	0
16 through 20	1
21 through 25	4
26 through 30	7
31 through 35	4
36 through 40	7
41 through 45	9
46 through 50	6
51 through 55	4
56 through 60	4
61 through 65	5
Over 65	4
Unknown age	1

## Number of Vessels by Length Category Property Damage Accidents 2009



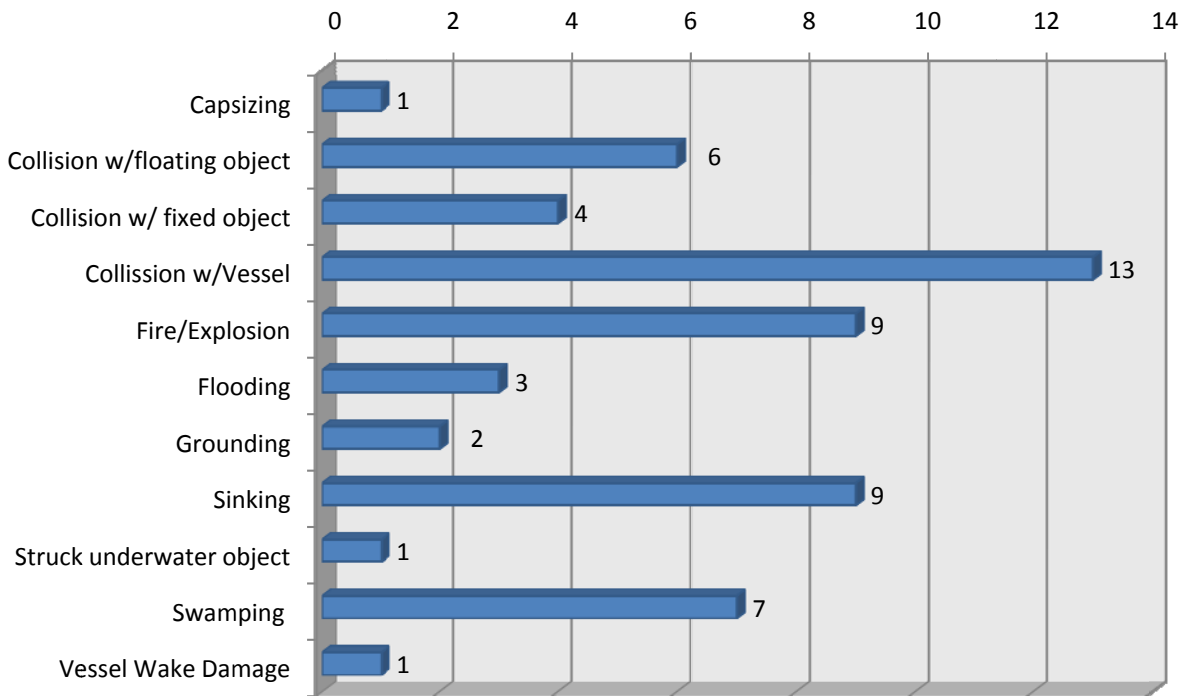
<b>Vessel Length Category</b>	<b>No. of Vessels</b>
Under 16'	15
16' to 26'	49
26' to 40'	12
40' to 65'	13
over 65'	1
Unknown length	2

## Number of Vessels by Vessel Type Property Damage Accidents 2009



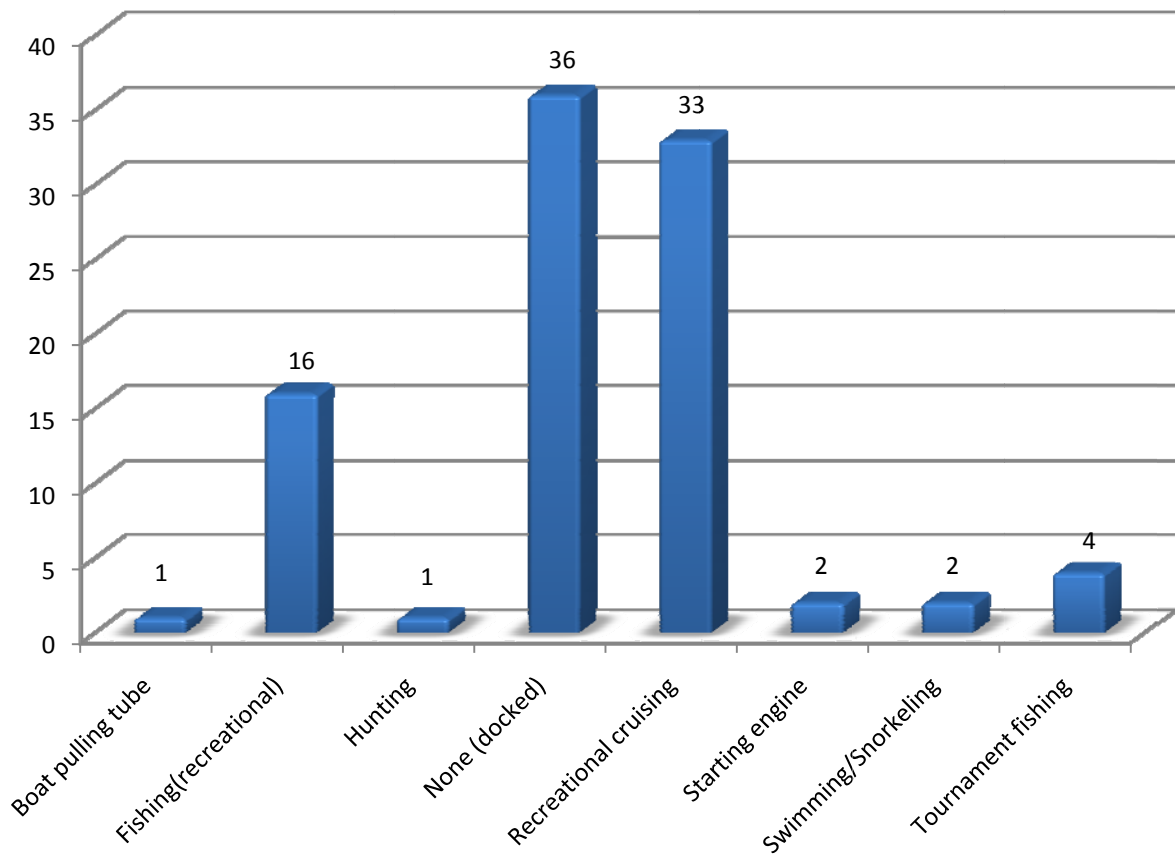
Vessel Type	Number of vessels
Cabin Motorboat	17
Houseboat	11
Open Motorboat	45
Personal Watercraft	7
Pontoon Boat	11
Sail(aux. power)	1

## Number of Accidents by Accident Type Property Damage Accidents 2009



Accident Type	Number of Accidents
Capsizing	1
Collision w/floating object	6
Collision w/ fixed object	4
Collision w/Vessel	13
Fire/Explosion	9
Flooding	3
Grounding	2
Sinking	9
Struck underwater object	1
Swamping	7
Vessel Wake Damage	1

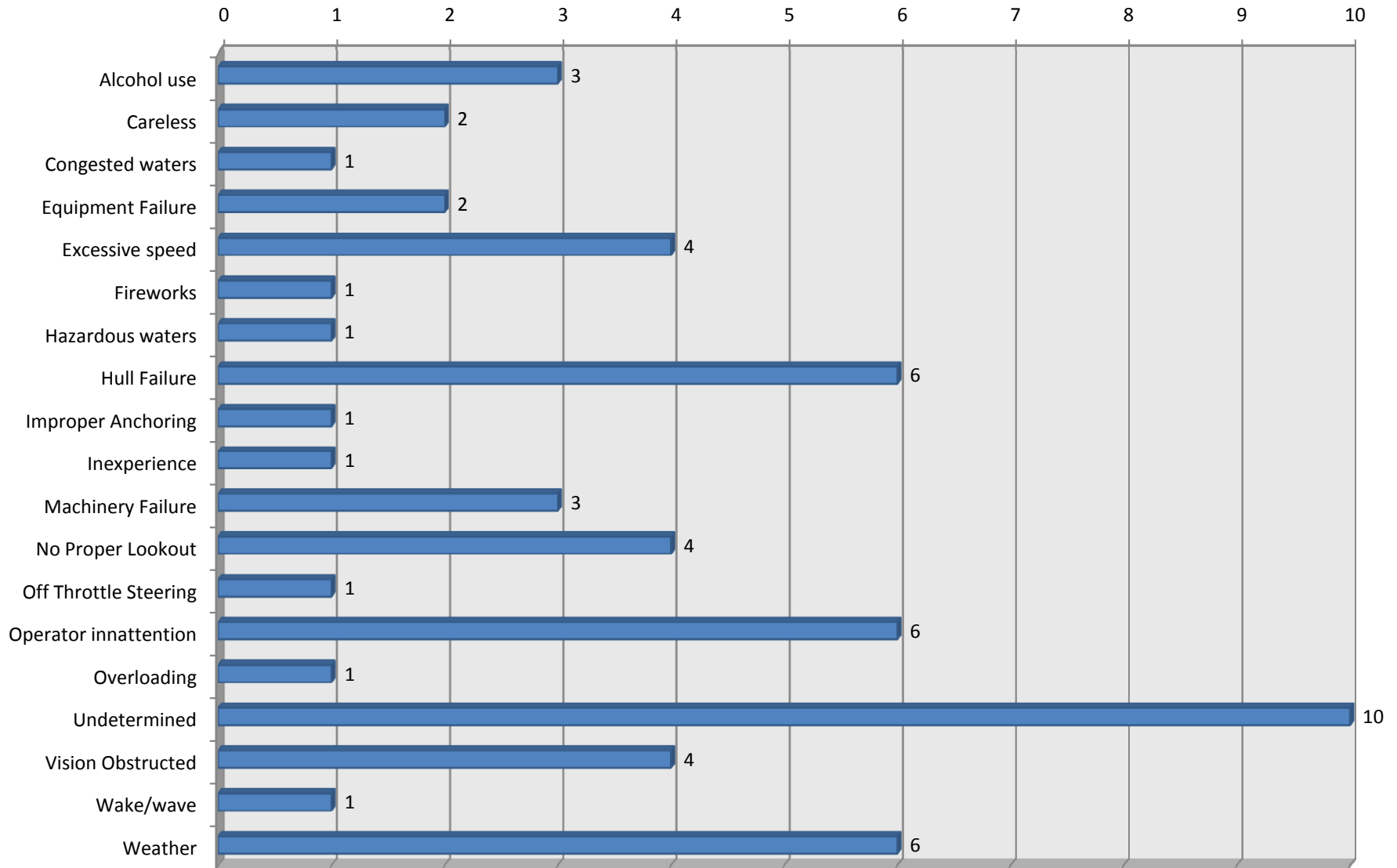
## Number of Vessels by Activity During Accident Property Damage Accidents 2009



Activity	Number of Vessels
Boat pulling tube	1
Fishing(recreational)	16
Hunting	1
None (docked)	36
Recreational cruising	33
Starting engine	2
Swimming/Snorkeling	2
Tournament fishing	4



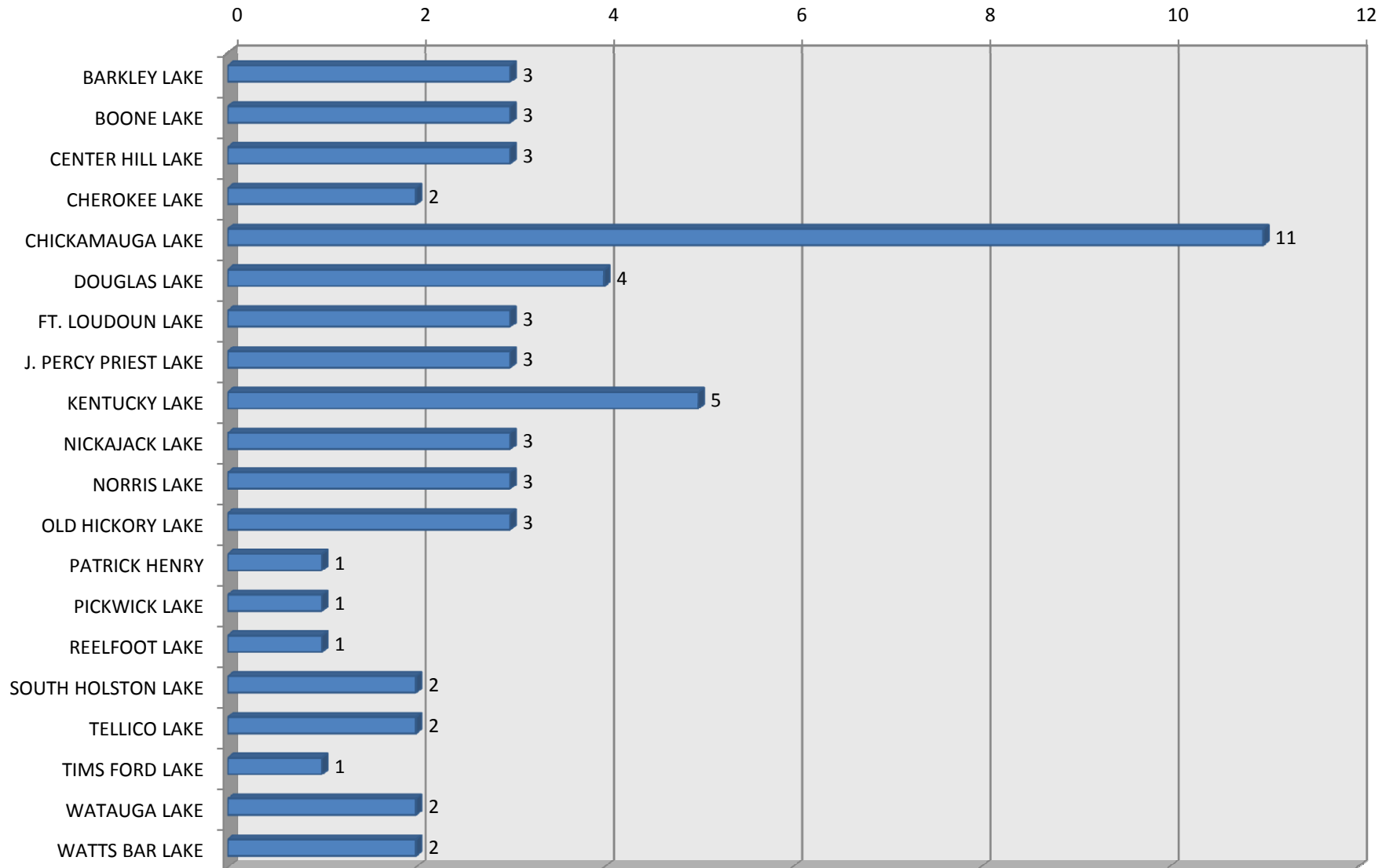
## Number of Accidents by Primary Cause Property Damage Accidents 2009



## Number of Accidents by Primary Cause of Accident Property Damage Accidents 2009

Primary Cause	Number of Accidents
Alcohol use	3
Careless	2
Congested waters	1
Equipment Failure	2
Excessive speed	4
Fireworks	1
Hazardous waters	1
Hull Failure	6
Improper Anchoring	1
Inexperience	1
Machinery Failure	3
No Proper Lookout	4
Off Throttle Steering	1
Operator inattention	6
Overloading	1
Undetermined	10
Vision Obstructed	4
Wake/wave	1
Weather	6

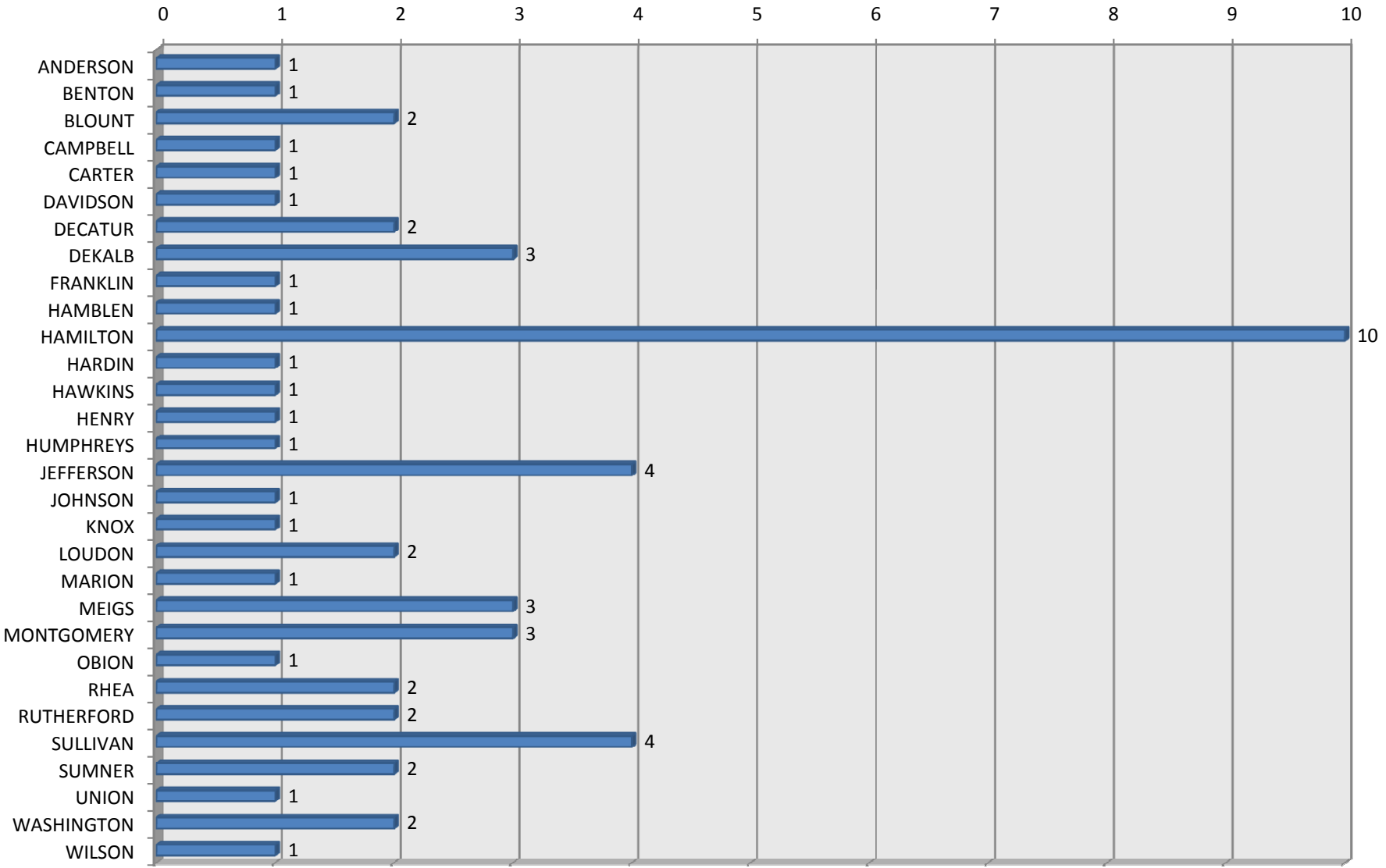
## Number of Accidents by Body of Water Property Damage Accidents 2009



## Number of Accidents by Body of Water Property Damage Accidents 2009

<b>Body of Water</b>	<b>Number of Accidents</b>
BARKLEY LAKE	3
BOONE LAKE	3
CENTER HILL LAKE	3
CHEROKEE LAKE	2
CHICKAMAUGA LAKE	11
DOUGLAS LAKE	4
FT. LOUDOUN LAKE	3
J. PERCY PRIEST LAKE	3
KENTUCKY LAKE	5
NICKAJACK LAKE	3
NORRIS LAKE	3
OLD HICKORY LAKE	3
PATRICK HENRY	1
PICKWICK LAKE	1
REELFOOT LAKE	1
SOUTH HOLSTON LAKE	2
TELLICO LAKE	2
TIMS FORD LAKE	1
WATAUGA LAKE	2
WATTS BAR LAKE	2

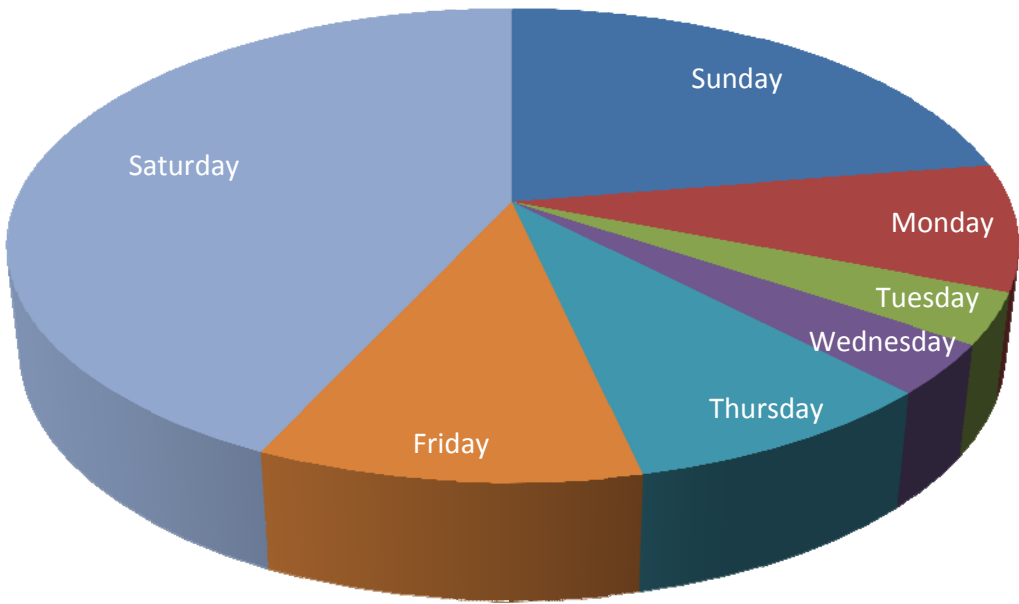
## Number of Accidents by County Property Damage Accidents 2009



## Number of Accidents by County Property Damage Accidents 2009

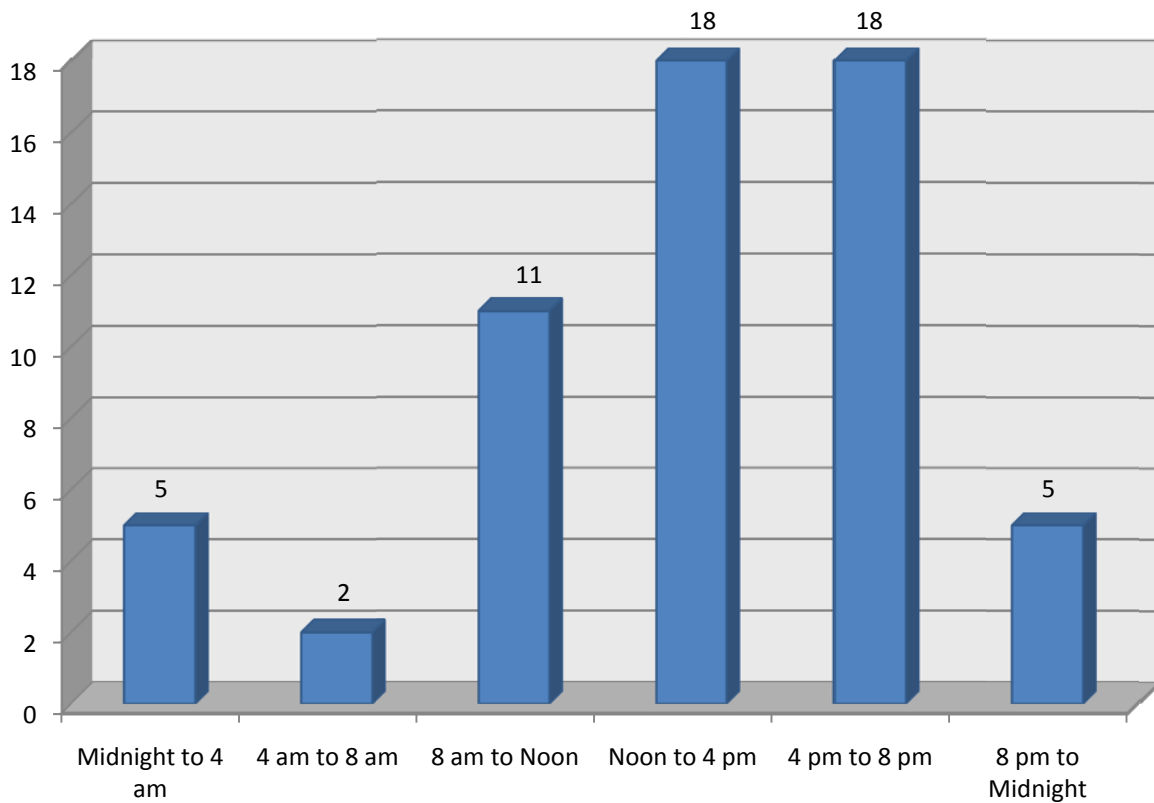
<b>County</b>	<b>Number of Accidents</b>
ANDERSON	1
BENTON	1
BLOUNT	2
CAMPBELL	1
CARTER	1
DAVIDSON	1
DECATUR	2
DEKALB	3
FRANKLIN	1
HAMBLEN	1
HAMILTON	10
HARDIN	1
HAWKINS	1
HENRY	1
HUMPHREYS	1
JEFFERSON	4
JOHNSON	1
KNOX	1
LOUDON	2
MARION	1
MEIGS	3
MONTGOMERY	3
OBION	1
RHEA	2
RUTHERFORD	2
SULLIVAN	4
SUMNER	2
UNION	1
WASHINGTON	2
WILSON	1

## Number of Accidents by Day of Week Property Damage Accidents 2009



<b>Day of Week</b>	<b>Number of Accidents</b>
Sunday	13
Monday	5
Tuesday	2
Wednesday	2
Thursday	5
Friday	6
Saturday	25

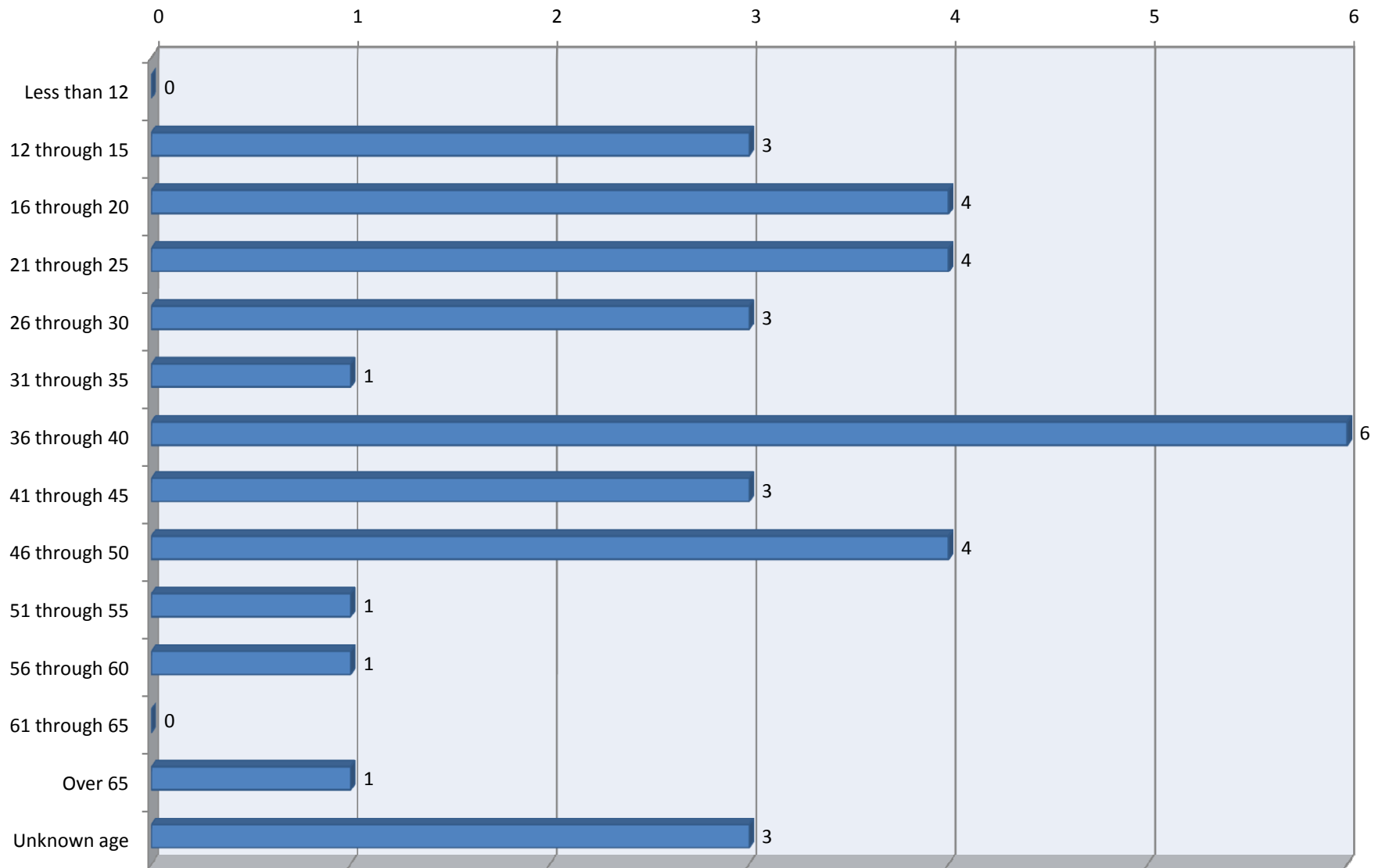
## Number of Accidents by Time of Day Property Damage Accidents 2009



Time Period	Number of Accidents
Midnight to 4 am	5
4 am to 8 am	2
8 am to Noon	11
Noon to 4 pm	18
4 pm to 8 pm	18
8 pm to Midnight	5



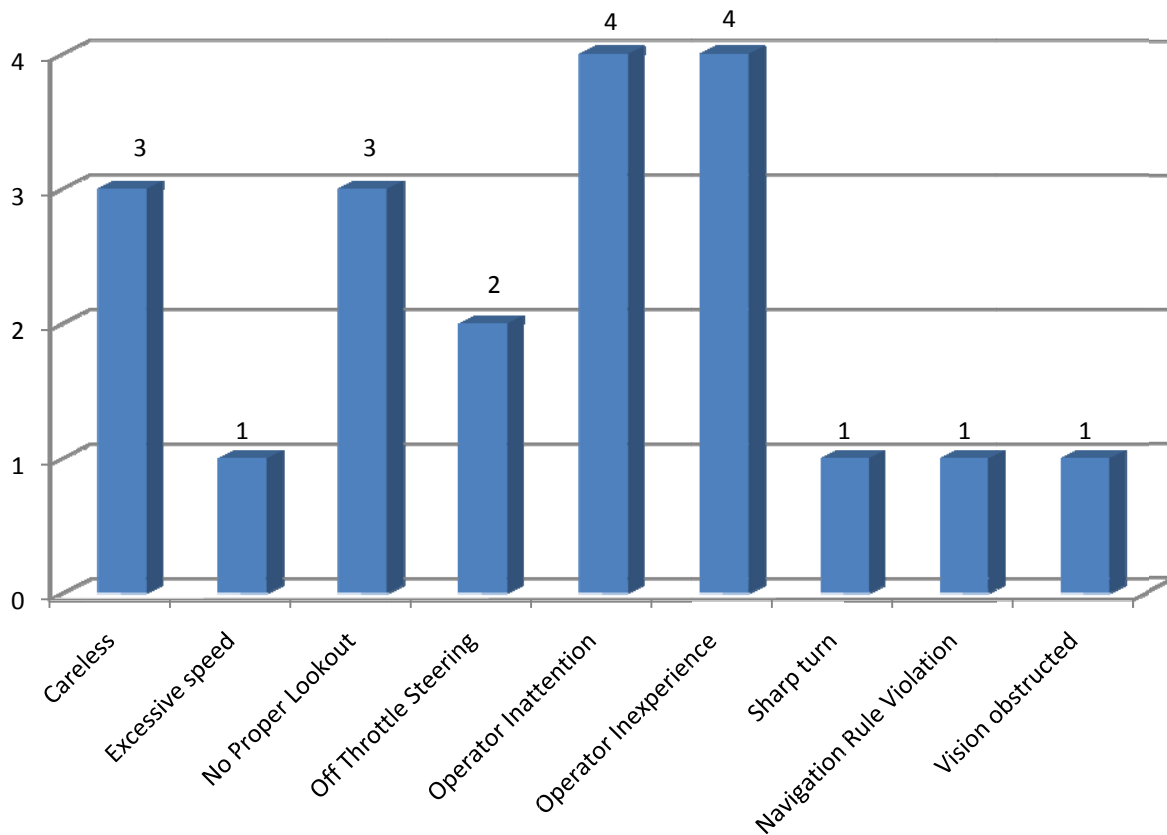
## Number of Operators by Age Category Accidents Involving PWCs 2009



## Number of Vessel Operators by Age Group PWC Accidents 2009

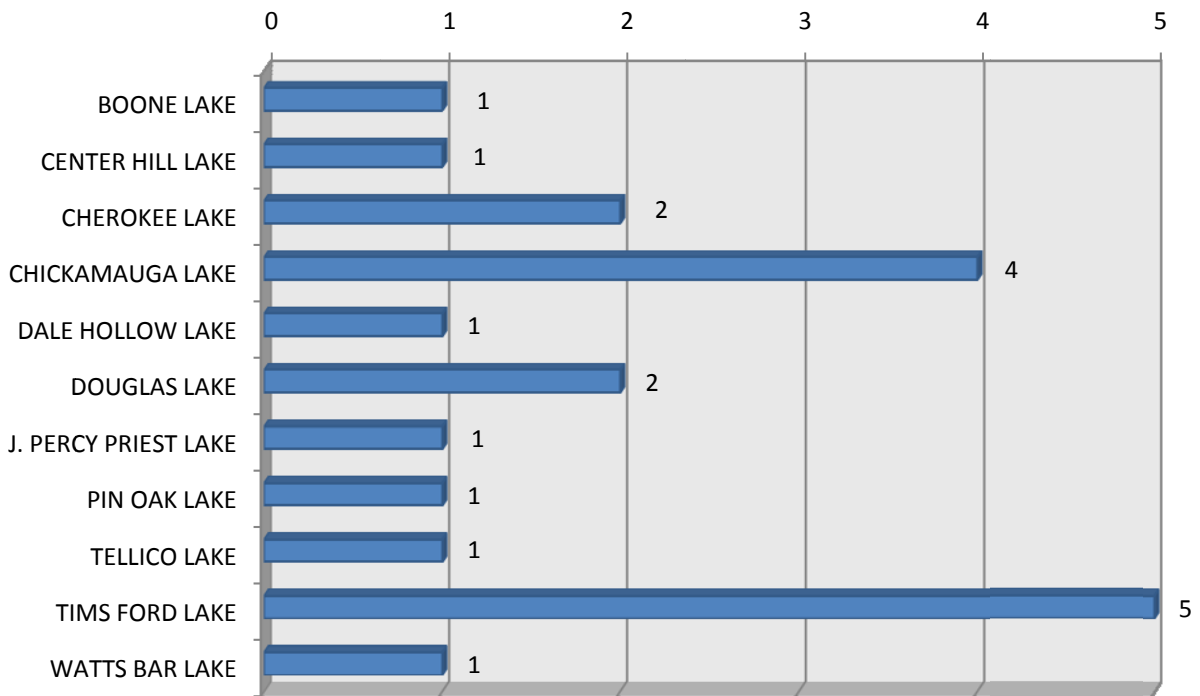
<b>Operator Ages</b>	<b>Number of Operators</b>
Less than 12	0
12 through 15	3
16 through 20	4
21 through 25	4
26 through 30	3
31 through 35	1
36 through 40	6
41 through 45	3
46 through 50	4
51 through 55	1
56 through 60	1
61 through 65	0
Over 65	1
Unknown age	3

## Number of Accidents by Primary Cause Accidents Involving PWCs 2009



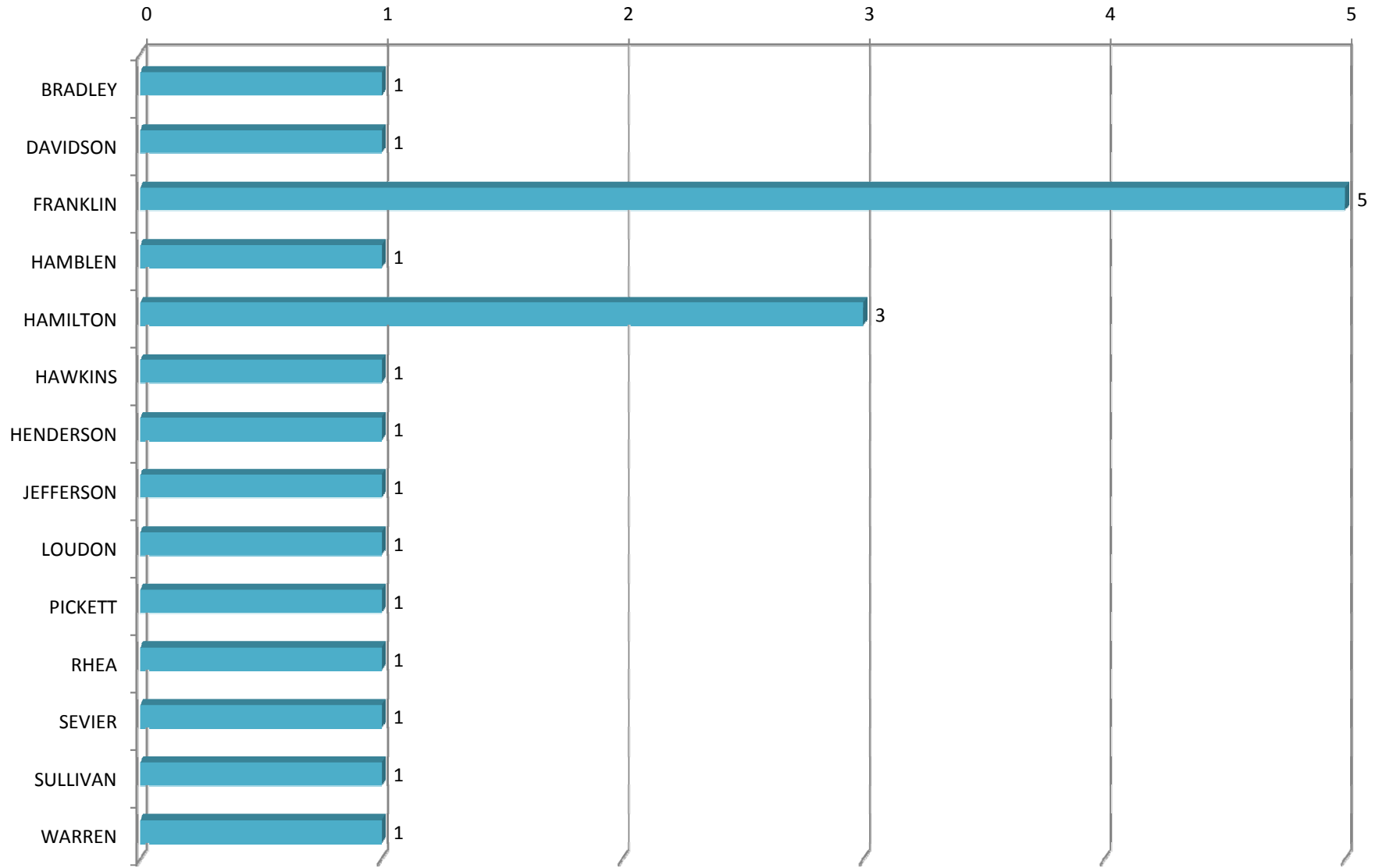
Primary Cause	Number of Accidents
Careless	3
Excessive speed	1
No Proper Lookout	3
Off Throttle Steering	2
Operator Inattention	4
Operator Inexperience	4
Sharp turn	1
Navigation Rule Violation	1
Vision obstructed	1

## Number of Accidents by Body of Water Accidents Involving PWCs 2009



<b>Body of Water</b>	<b>Number of Accidents</b>
BOONE LAKE	1
CENTER HILL LAKE	1
CHEROKEE LAKE	2
CHICKAMAUGA LAKE	4
DALE HOLLOW LAKE	1
DOUGLAS LAKE	2
J. PERCY PRIEST LAKE	1
PIN OAK LAKE	1
TELLICO LAKE	1
TIMS FORD LAKE	5
WATTS BAR LAKE	1

## Number of Accidents by County Accidents Involving PWCs 2009



Number of Accidents by County  
PWC accidents 2009

<b>County</b>	<b>Number of Accidents</b>
BRADLEY	1
DAVIDSON	1
FRANKLIN	5
HAMBLEN	1
HAMILTON	3
HAWKINS	1
HENDERSON	1
JEFFERSON	1
LOUDON	1
PICKETT	1
RHEA	1
SEVIER	1
SULLIVAN	1
WARREN	1

## 2009 GLOSSARY

**Alcohol Impairment:** When alcoholic beverages are consumed and the investigating official has determined that the operator was impaired or affected while operating the vessel -- or -- the vessel's passengers were impaired and such impairment contributes to the resultant accident. This includes alcohol consumption that may have occurred outside of the vessel and the occupants are now under the influence.

**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.

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

**Collision with Vessel:** Any striking together of two or more vessels, regardless of operation at time of accident, is a collision. Also includes colliding with the tow of another vessel, regardless of the nature of the tow (e.g., surfboard, ski ropes, skier, tow line). A vessel does not have to be underway to be involved in a collision, but a collision with a vessel moored to a dock or pier is not considered be a collision with a vessel (considered Collision with Fixed Object).

**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 with another vessel.

**Commercial Activity:** The vessel is being used for commercial activity. This type of activity includes carrying passengers for hire; fishing, crabbing, or shrimping in support of one's business; or charging a fee to tow a vessel.

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

**Departed Vessel Voluntarily:** Acting of their own free will, and as a first event, occupant departs from the vessel, and the departure results in occupant's injury or death. The vessel from which the occupant departed is not moored, beached or anchored,

**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.

**Environmental Conditions Affecting Visibility:** Operator's ability to discern other vessels or hazards is affected by an external condition in the surrounding environment (e.g., sun glare, fog, background lighting (lights on docks and shorelines, etc.), rain, snow, minimal night visibility due to overcast skies or moon phase, etc.)

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

**Falls Overboard:** Falls from the vessel with resulting injury or death. Any unintentional spilling out of person(s) into the water without completely overturning the vessel. Using the vessel as a swimming platform and/or voluntarily departing the vessel as a first event whether the vessel was underway or not, should not be considered a reportable boating accident.

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

**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, by means of entry of the water through a fitting, a drain plug, a hole or crack in the hull, or other means that allows ingress of water through the hull, not over the top of the gunwale, transom, or decking of the vessel. Vessel retains sufficient buoyancy to remain on the surface of the water.

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

**Grounding-** Bringing vessel's keel into contact with the bottom so that she ceases to be completely waterborne.

**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, regardless of the cause of the spill.



**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-** Propulsion system consisting of an inboard engine connected through the transom to an outboard drive unit. Also known as Inboard/Outdrive.

**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.

**Navigation Rules Violation:** Violation of the statutory and regulatory rules governing the navigation of vessels other than those listed.

**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.

**Off Throttle Steering-** A term used to describe the lack of steering ability on a jet drive vessel that has no rudder. Steering is accomplished by directing the flow of water from the drive. When no water is flowing from the drive (off throttle) steering ability is lost. Common to Personal Watercraft.

**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(PWC)-** 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.

**Sharp Turn:** An immediate or abrupt change in the vessel's course or direction

**Skier Mishap:** A person who suffers injury or death by

- (1) falling off their water-skis,
- (2) striking a fixed or submerged object, or by
- (3) becoming entangled or struck by the tow line.

NOTE: Also includes mishaps involving inner-tubes and other devices on which a person can be towed behind a vessel, or surfing on the wake created by the vessel, even if not being towed behind the vessel.

**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 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:** Ingress of water over the top of the gunwale, transom, or decking of the vessel. Vessel retains sufficient buoyancy to remain on the surface of the water.

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

**Undetermined:** After thorough investigation, the officer was unable to reach a conclusion as to a contributing cause, due to lack of witnesses or insufficient evidence.

**White water Sports:** This vessel was traveling in white water "rapids" where the water conditions were rough and the current very strong (Class 3+).

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

## Reporting Criteria and Guidelines for Recreational Vessel Accidents

- I. Title 33 Code of Federal Regulations, Subchapter S – Boating Safety, Part 173 – Vessel Numbering and Casualty and Accident Reporting, Subpart C – Casualty and Accident Reporting, applies to vessels that are used by their operators for recreational purposes, or that are required to be numbered, except for those vessels required by law to have a Certificate of Inspection.
- II. Recreational vessel means any vessel manufactured or operated for pleasure; or leased, rented, or chartered to another for the latter’s pleasure that is propelled or controlled by machinery, sails, oars, paddles, poles, or another vessel.
- III. A recreational boating accident means a recreational vessel, a numbered vessel, or a documented vessel is being used by its operator for recreational purposes **AND** one or more of the following events occur involving the vessel or its equipment:
  - Grounding;
  - Capsizing;
  - Flooding / Swamping;
  - Falls within or overboard a vessel;
  - Person(s) ejected from a vessel;
  - Person leaves a vessel that is underway to swim for pleasure;
  - Person leaves a vessel in an attempt to retrieve a lost item, another person, or another vessel;
  - Sinking;
  - Fire or Explosion;
  - Skier Mishap;
  - Collision with another vessel or object;
  - Striking a submerged object;
  - The vessel, propeller, propulsion unit, or steering machinery strikes a person;
  - Carbon Monoxide asphyxiation.

As a general guideline, if any of the above events occur and there is a reasonable likelihood that as a result of the event(s) – an injury, death, or property damage occurs – the incident is a recreational boating accident. More than likely, the boating trip would have been successfully completed without incident had any of the above event(s) not occurred.

- IV. The operator of a vessel involved in a recreational boating accident as defined in Section III must submit a casualty or accident report to the reporting authority in the State where the accident occurred when:
  - a. A person dies;
  - b. A person is injured and requires medical treatment beyond first aid;
  - c. Damage to vessels and other property totals \$2000 or more or there is a complete loss of any vessel; or
  - d. A person disappears from the vessel under circumstances that indicate death or injury.

## Reporting Criteria and Guidelines for Recreational Vessel Accidents

The following guidelines list occurrences directly or indirectly involving a vessel where vessel activities or operation DID NOT contribute to a boating accident as defined in Section III. The occurrences alone are considered to be outside the scope of a boating safety program. While these occurrences may be reported in a State and subsequently captured by the Boating Accident Report Database (BARD) system, they will be classified as “**non-reportable recreational boating accidents**” in the National BARD system at Coast Guard Headquarters.

- a. A person dies or is injured from self-inflicted wounds, alcohol poisoning, ingestion of drugs, controlled substances or poison; or from gunshot wounds.
- b. A person dies or is injured from assault by another person or persons while aboard a vessel.
- c. A person dies or is injured from natural causes while aboard a vessel.
- d. A person dies or is injured while swimming for pleasure from a vessel that **IS NOT underway** (the vessel is anchored, moored, or docked).

**CAUTION needs to be exercised to confirm that the vessel was used as a swimming platform only.** The following are **REPORTABLE** boating accidents involving a swimmer, a recreational vessel and its operation:

- *A person dies or is injured while swimming because of Carbon Monoxide asphyxiation;*
  - *A person dies or is injured while swimming because a vessel is improperly connected to shore power and resultant stray electrical current enters the water causing electrocution;*
  - *A person dies or is injured after leaving a vessel that is underway to swim for pleasure because the vessel IS NOT anchored, moored or docked and the vessel drifts away from the swimmer and the swimmer is unable to get back to the vessel.*
- e. A person dies or is injured in swimming to retrieve an object or a vessel that is adrift from its mooring or dock, having departed from the shore or pier.
  - f. A person dies, or is injured after falling or jumping from a swim raft that is moored or anchored for use as a swimming platform or other purpose.
  - g. A person dies, is injured, or property damage occurs while preparing a vessel for launching or retrieving a vessel **AND** the vessel is not in or upon the water.
  - h. Damage, injury or death results from a fire on shore or a pier that spreads to a vessel or vessels.

## **Reporting Criteria and Guidelines for Recreational Vessel Accidents**

- i. A person dies, is injured, or property damage results from an “ice boat” accident. [An “ice boat” is a device that is designed to travel primarily over the ice on lakes and rivers on runners/blades, carrying at least one person and using a sail for propulsion. It is not designed for use nor has the ability to navigate on open water.]
- j. Damage, injury or death on a docked or moored vessel resulting from storms, unusual tidal, sea or swell conditions; or when a vessel gets underway in those conditions in an attempt to rescue persons put in peril.
- k. Damage to a docked or moored vessel due to theft or any vandalism.
- l. Deaths, injury or damage on a docked or moored or anchored non-propelled houseboat or other vessel used primarily as a permanent residence.
- m. A person dies or is injured while using underwater breathing apparatus (i.e., snorkeling or scuba diving) and the vessel did not contribute to the casualty.