Tennessee Wildlife Resources Agency

2016 Tennessee Boating Incident Statistical Report

Summary of Reportable Boating Incidents

Boating & Law Enforcement Division

2016

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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 2016 Boating Incident Statistical Report is compiled by the Tennessee Wildlife Resources Agency (TWRA), Boating & Law Enforcement Division. The data used in this report is retrieved from "reportable boating incident" reports submitted by TWRA officers who investigate boating incidents and report their findings on TWRA Boating Incident Report forms (BAR). This data is for incidents which occur during the 2016 calendar year.

To be considered a "reportable boating incident", an incident must involve 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 incident to immediately notify TWRA and provide certain information to the investigating officer. TWRA officers are required by Agency policy to investigate incidents that meet the reporting criteria.

TWRA officers also investigate commercial whitewater boating incidents that occur throughout the year. Although these incidents are not "recreational", they are still investigated to capture statistical data and ensure compliance with the law.

At the end of each calendar year, boating incident 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 incidents and their related fatalities, injuries, and property damage. The incident 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 & Law Enforcement Division – Investigations
P.O. Box 40747
Nashville, TN 37204
Telephone: (615) 781-6682

2016 TENNESSEE BOATING INCIDENT STATISTICAL REPORT
EXECUTIVE SUMMARY

2016 REPORTABLE BOATING INCIDENTS

- The total number of *registered vessels* in 2016 was **254,480**. That was an **decrease** of **2,692** from 2015.
- The total number of *reportable incidents* in 2016 was **132.** That was a **decrease** from 2015 which had **136.**
- The *incident rate* for 2016 was **51.9 per 100,000** registered vessels. This was a **decrease** from 2015 which was **52.9 per 100,000**.
- The *body of water* that reported the most incidents was **Chickamauga Lake** with **14 incidents.**
- The *county* that reported the most incidents was **Hamilton County** with **13.**
- The *monetary amount* of damage resulting from boating incidents in 2016 was **$1,252,545.** This was an **increase** from 2015 which reported **$685,934**.
- The most common *type of boat* involved in an incident was an **open motorboat.**
- The leading *type of incident* was **Collision with Vessel** with **56** occurrences**.**
- The most common *operation* during an incident was **recreational cruising.**
- The leading *primary cause* of incidents was **improper lookout**.
- *Alcohol and/or drug use* was a primary cause in **5.8%** of incidents in 2016. This was an **increase** from 2015 which was **5.1%** of incidents.
- *Rented or borrowed vessels* were involved in **20.5%** of incidents in 2016. This was a **decrease** from 2015 which was **23.0%** of incidents.
- The most likely *time* to be involved in an incident was between the hours of **12pm to 4pm.**
- The most likely *day of the week* to be involved in an incident was **Saturday.**
- The leading *age group* of operators to be involved in an incident was **46 through 50** years old.

2016 BOATING FATALITIES

- The *number* of recreational boating fatalities for 2016 was **22.** This was an **increase** from 2015 which reported **13**.
- The *type of incident* that resulted in the most fatalities was **Falls Overboard** with **7** occurrences.
- The *type of vessel* that was most common in fatal incidents was the **Open Motorboat** with **7** incidents**.**
- The *length of vessel* that was most common in fatal incidents was **16' through 26'** with **13** incidents.
- The body of water that was most likely to involve a fatal incident was **Douglas Lake and Norris Lake** with **3** incidents each.

2016 INJURY INCIDENTS

- The *number* of injury incidents in 2016 was **49** resulting in **79 injuries.**
- The leading *contributing cause* of injury incidents was **operator inexperience.**
- The *type of incidents* that resulted in the most injuries was **collision with vessel** with **19** occurrences.
- The *body of water* that produced the most injury incidents was **Kentucky Lake** and **Chickamauga Lake** with **5** incidents each.

2016 PROPERTY DAMAGE INCIDENTS

- The *number* of property damage incidents in 2016 was **63.** This was an **increase** from 2015 which reported **56**.
- The *type of incident* that most commonly resulted in property damage was **Collision with Vessel** with **18** occurrences.
- The *body of water* that reported the most property damage incidents was **Chickamauga Lake** with **7** incidents.
- The leading *primary cause* in property damage incidents was **Improper Lookout** with **17** occurrences.

2016 PERSONAL WATERCRAFT (PWC) INCIDENTS

- The *number* of PWC's involved in incidents in 2016 was **12,** and that **stayed the same** from 2015 which reported **12**.
- The *number* of PWC's involved in injury incidents in 2016 was **10,** an **increase** from 2015 which reported **9**.
- The *number* of PWC's involved in fatal incidents in 2016 was **2,** which is a **decrease** from 2015 which reported **3**.
- The leading *primary causes* for PWC incidents were **Operator Inexperience and Improper Lookout** with **3** occurrences each.
- The *body of water* with the most PWC accidents was **Dale Hollow, Kentucky Lake, and Old Hickory Lake** with **2** incidents each.
- The most common *operator age group* to be involved in PWC incidents was **12-15, 21-25, and 51-55** with **3** occurrences each.

2016 RECREATIONAL PADDLECRAFT INCIDENTS

- The number of recreational paddle craft incidents in 2016 was **6**. This was a **decrease** from 2015 which reported **9**.
- The number of recreational paddle craft fatalities in 2016 was **4.** This was an **increase** from 2015 which reported **3**.
- The type of incident that resulted in the most fatalities was **Capsizing** with **3** occurrences**.**
- The number of injuries from recreational paddle craft incidents in 2016 was **2.** This was a **decrease** from 2015 which reported **3.**

2016 WHITEWATER COMMERCIAL INCIDENTS

- The number of commercial whitewater incidents in 2016 was **11.** This was a **decrease** from 2015 which reported **14**.
- The number of commercial whitewater boating fatalities for 2016 was **0.** This **stayed the same** from 2015 which reported **0**.
- The number of injuries resulting from commercial whitewater activities in 2016 was **11**. This was a **decrease** from 2015 which reported **19.**
- All commercial whitewater incidents investigated occurred in **Polk County** on the **Ocoee River**.

2016 LAW ENFORCEMENT SUMMARY

• Total boating law enforcement hours	**96,520**	
• On-Water law enforcement hour(boat log hours)	**56,548**	
• Boating citations issued	**4,488**	
• BUI arrests	**123**	
• Warning citations issued	**1,846**	
• Vessels inspected by law enforcement	**57,151**	
• Search and rescue missions	**115**	
• Total number of boating enforcement officers	**186**	**full time**
	45	**part time**
	231	**total**
• Officers trained in BUI detection in 2016	**186**	
• Officers trained in accident investigation in 2016	**10**	

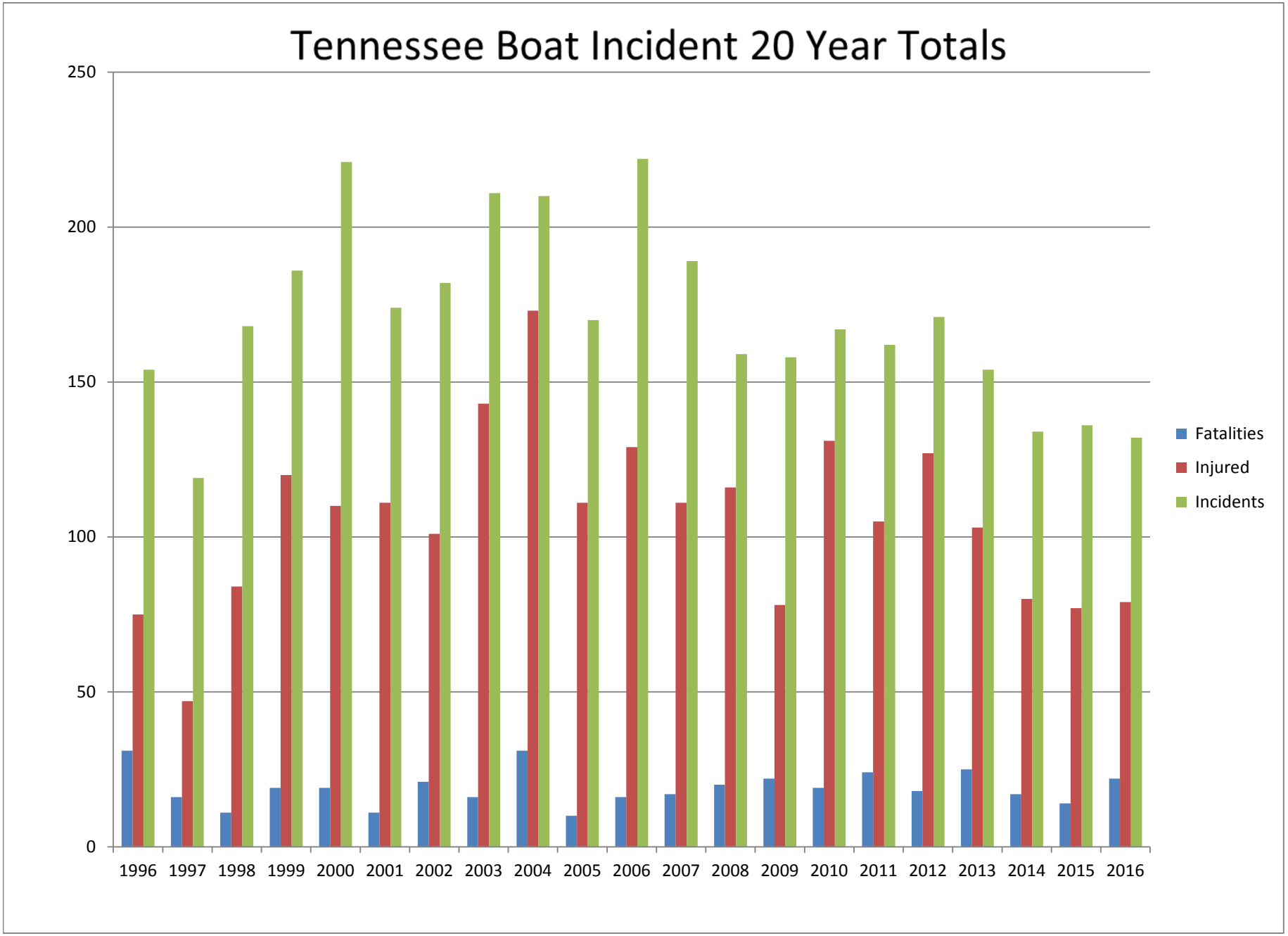
2016 BOATING EDUCATION SUMMARY

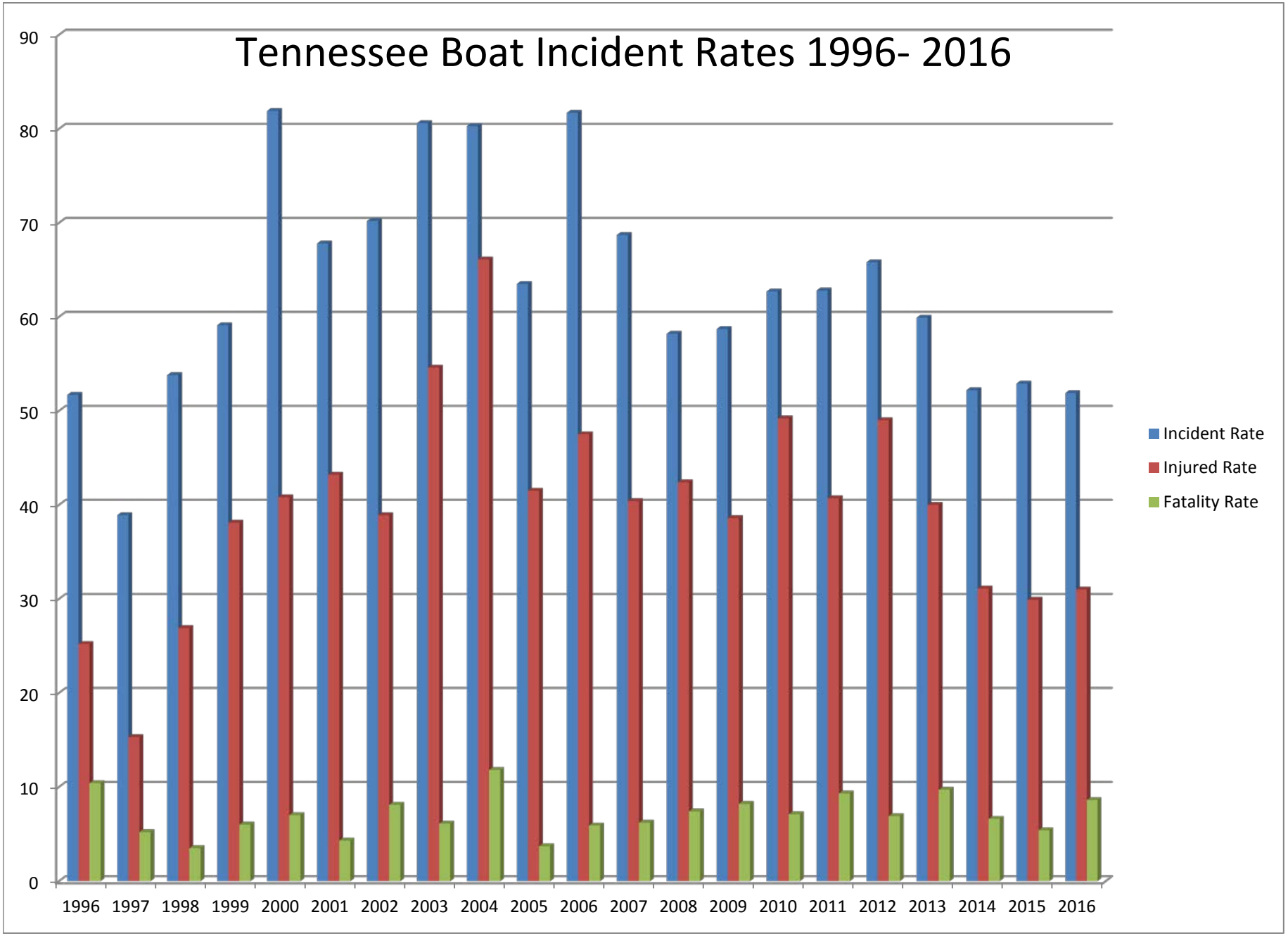
In 2005 a law went into effect that required vessel operators born after January 1, 1989 to have onboard the Tennessee Wildlife Resources Agency (TWRA)-issued Boating Safety Education Certificate. Students must pass a monitored exam administered by appointed volunteers or TWRA personnel. All exams are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

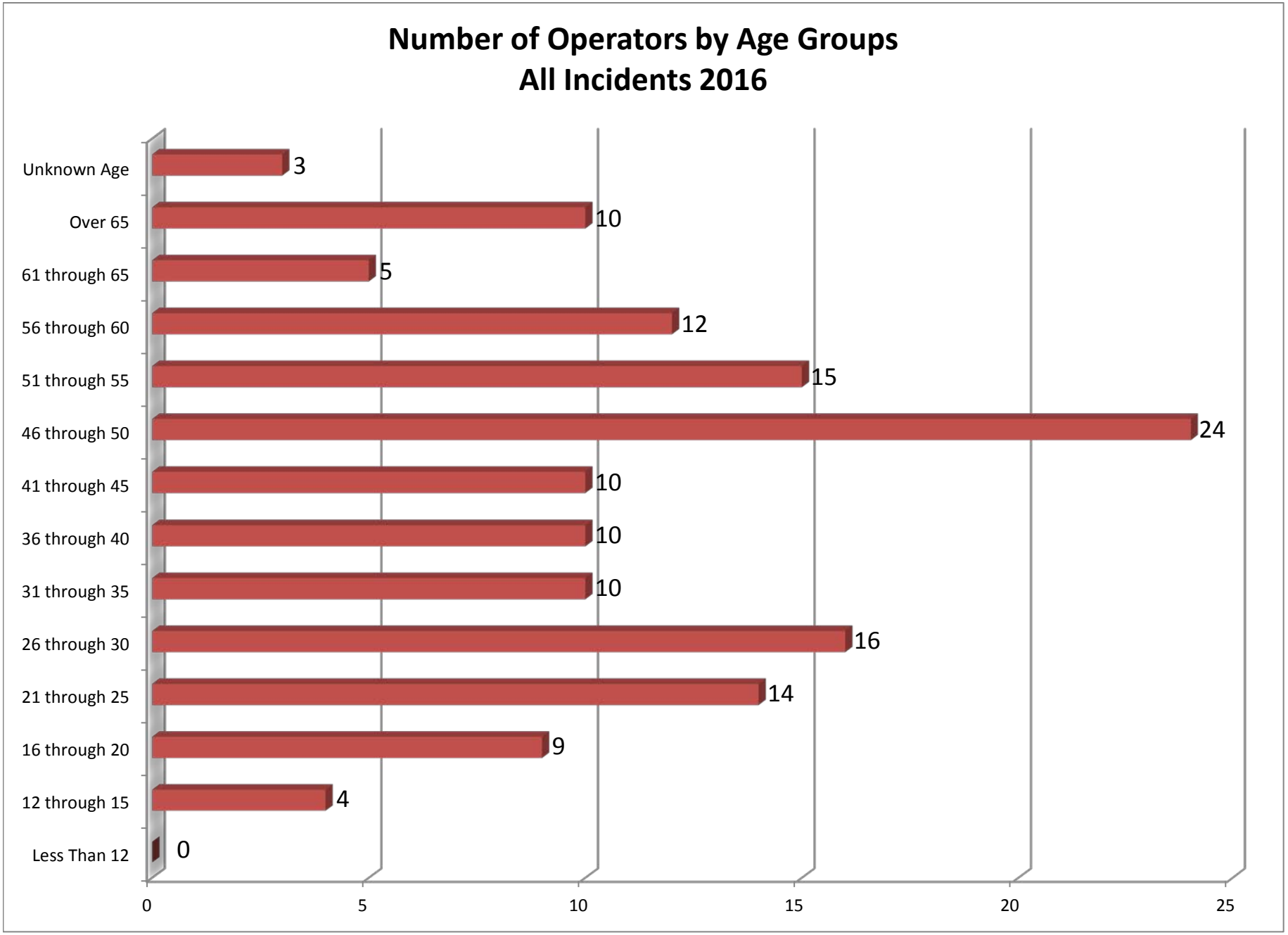
- Number of persons successfully completing exam in 2016 **7,227**
- Number of persons successfully completing exam since 2005 **54,506**

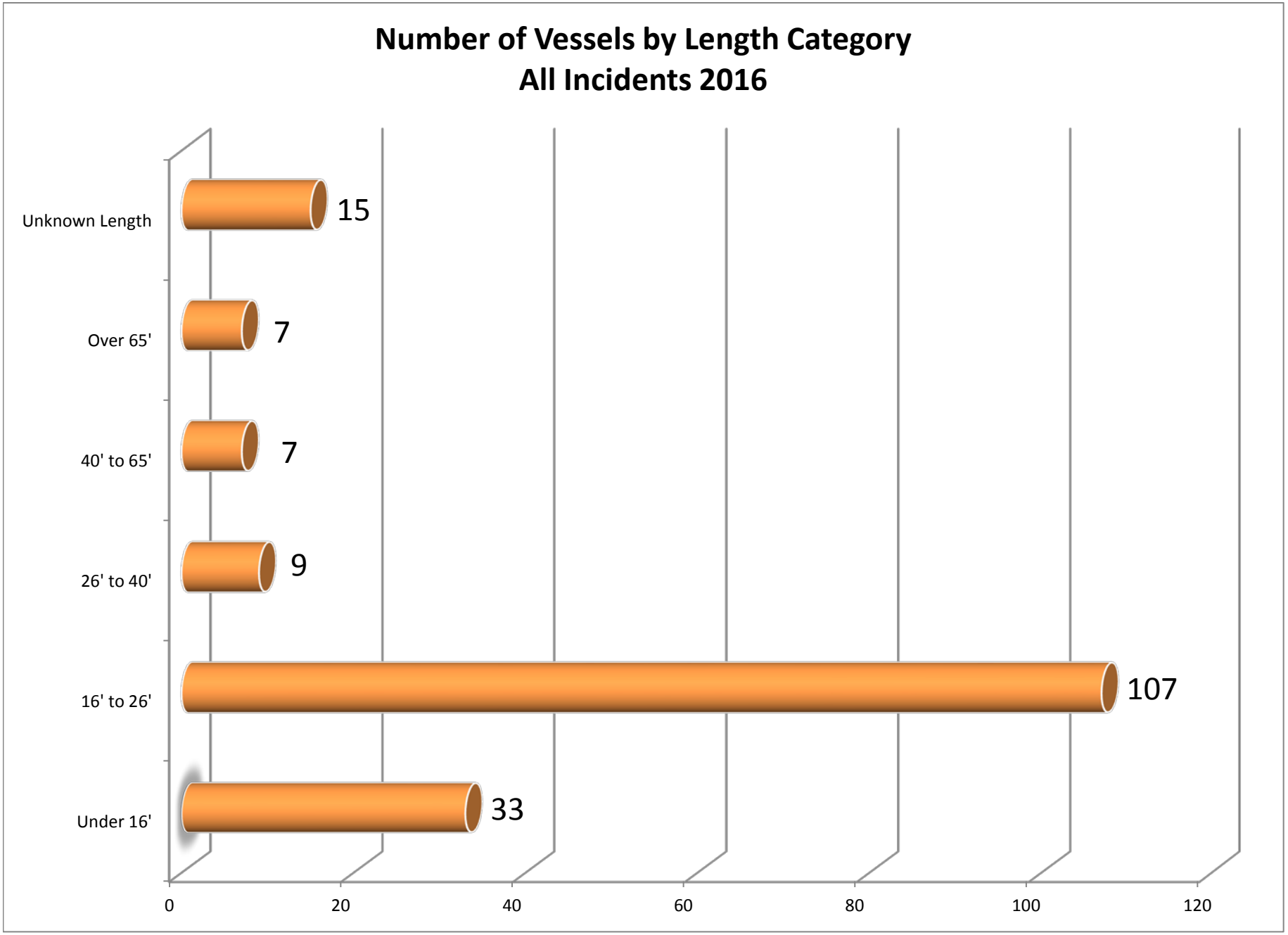
Boat Incident Report Statistics - Compiled From 1965 through 2015

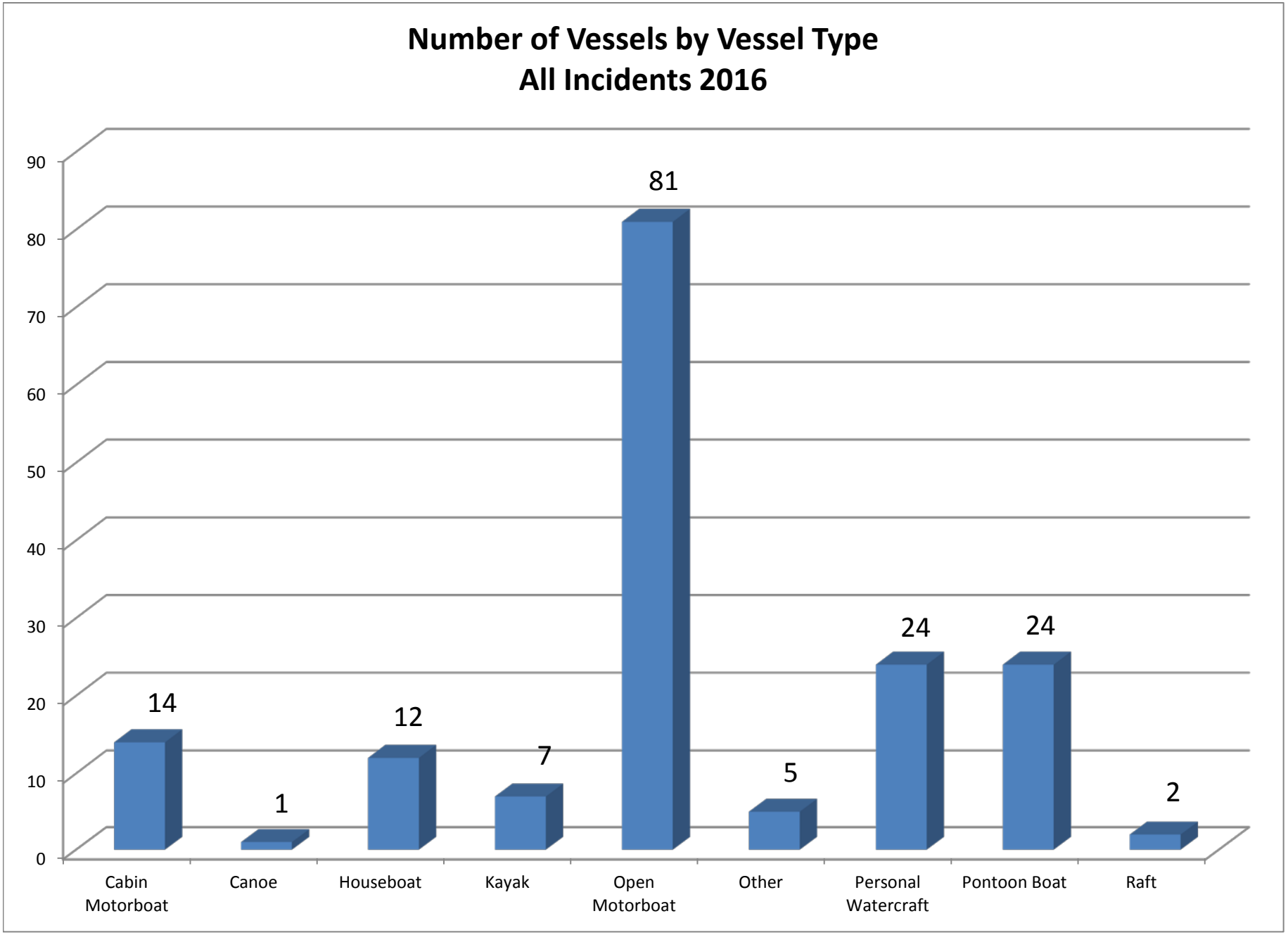
	NUMBER				RATE PER 100,00 VESSELS		
YEAR	REGISTERED VESSELS	INJURED	FATALITIES	INCIDENTS	INJURED	FATAL	INCIDENTS
1965	70,899	6	2	13	8.5	2.8	18.3
1966	81,897	13	8	33	15.9	9.8	40.3
1967	90,844	11	29	51	12.1	31.9	56.2
1968	97,785	16	18	54	16.4	18.4	55.2
1969	122,958	16	27	40	13	21.9	32.5
1970	120,292	18	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
2010	266,185	131	19	167	49.2	7.1	62.7
2011	258,096	105	24	162	40.7	9.3	62.8
2012	259,632	127	18	171	49	6.9	65.8
2013	257,451	103	25	154	40	9.7	59.9
2014	256,862	80	17	134	31.1	6.6	52.2
2015	257,172	77	14	136	29.9	5.4	52.9
2016	254,480	79	22	132	31	8.6	51.9
Averages		***66***	***22***	***113***	***27***	***12***	***49***

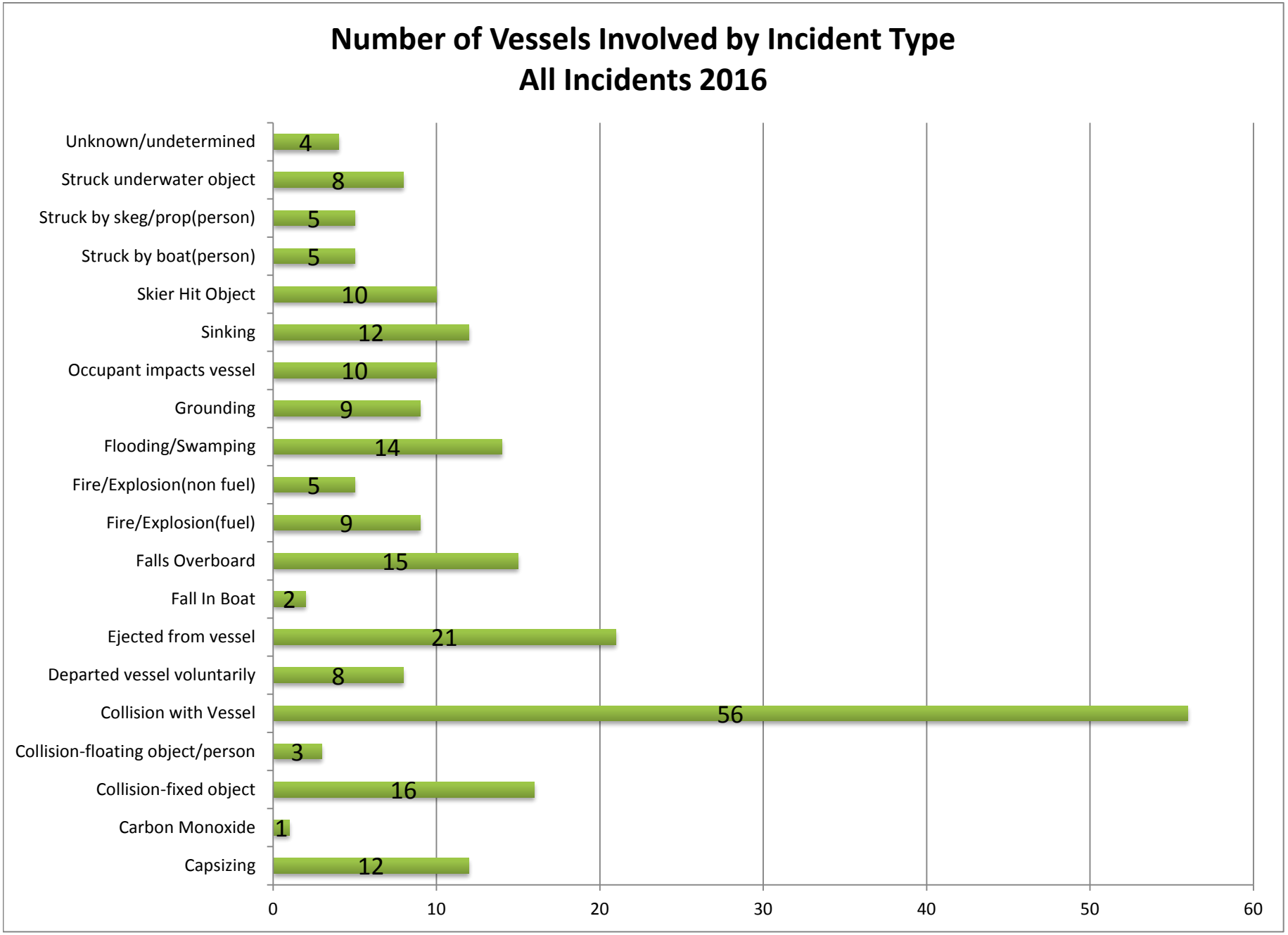

Tennessee Boat Incident 20 Year Totals
250
200
150
100
50
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Fatalities
Injured
Incidents

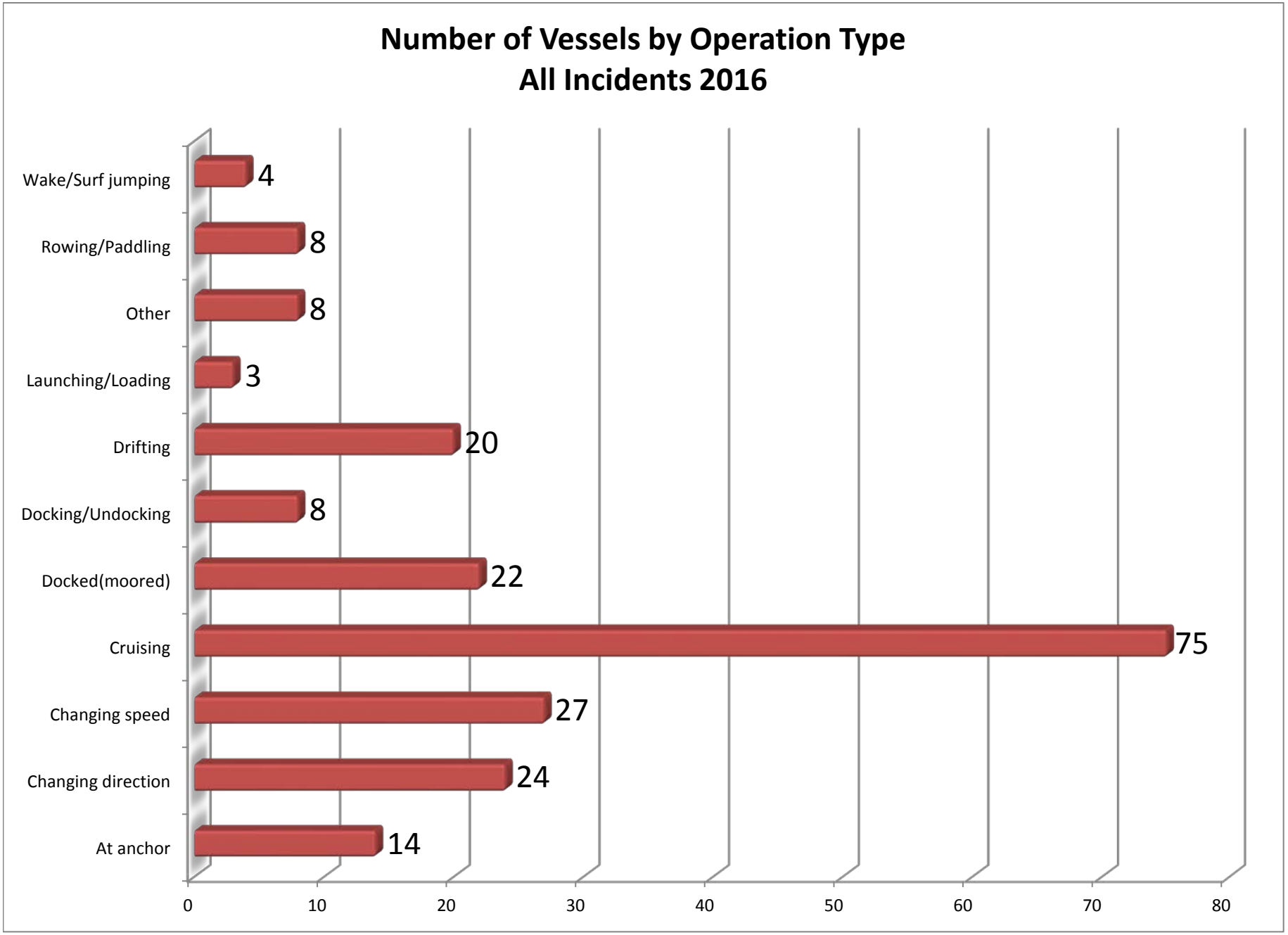

Tennessee Boat Incident Rates 1996- 2016
90
80
70
60
50
40
30
20
10
0
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Incident Rate
Injured Rate
Fatality Rate

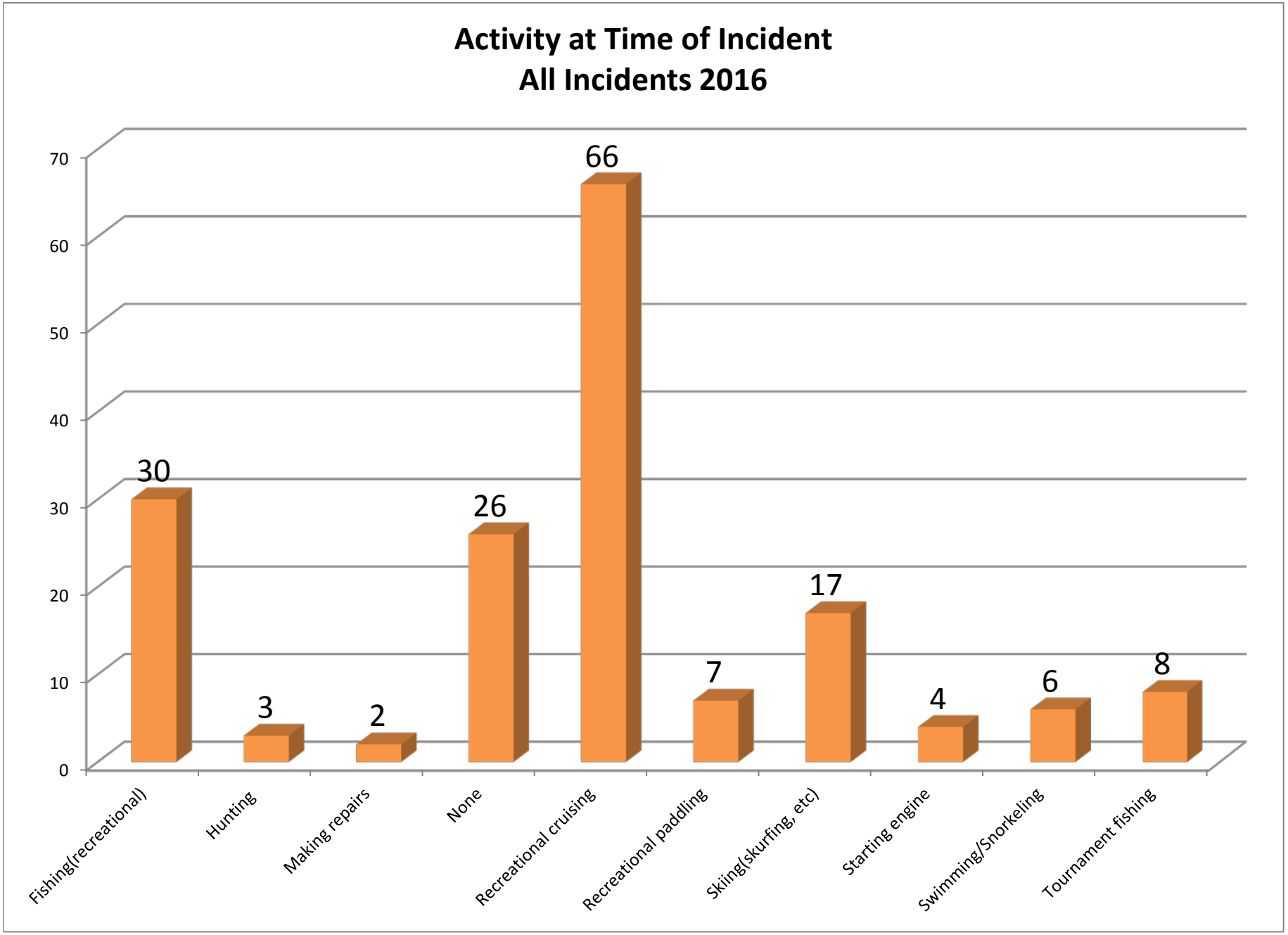

Number of Operators by Age Groups
All Incidents 2016
Unknown Age
Over 65
61 through 65
56 through 60
51 through 55
46 through 50
41 through 45
36 through 40
31 through 35
26 through 30
21 through 25
16 through 20
12 through 15
Less Than 12
3
10
5
12
15
24
10
10
10
16
14
9
4
0
0
5
10
15
20
25

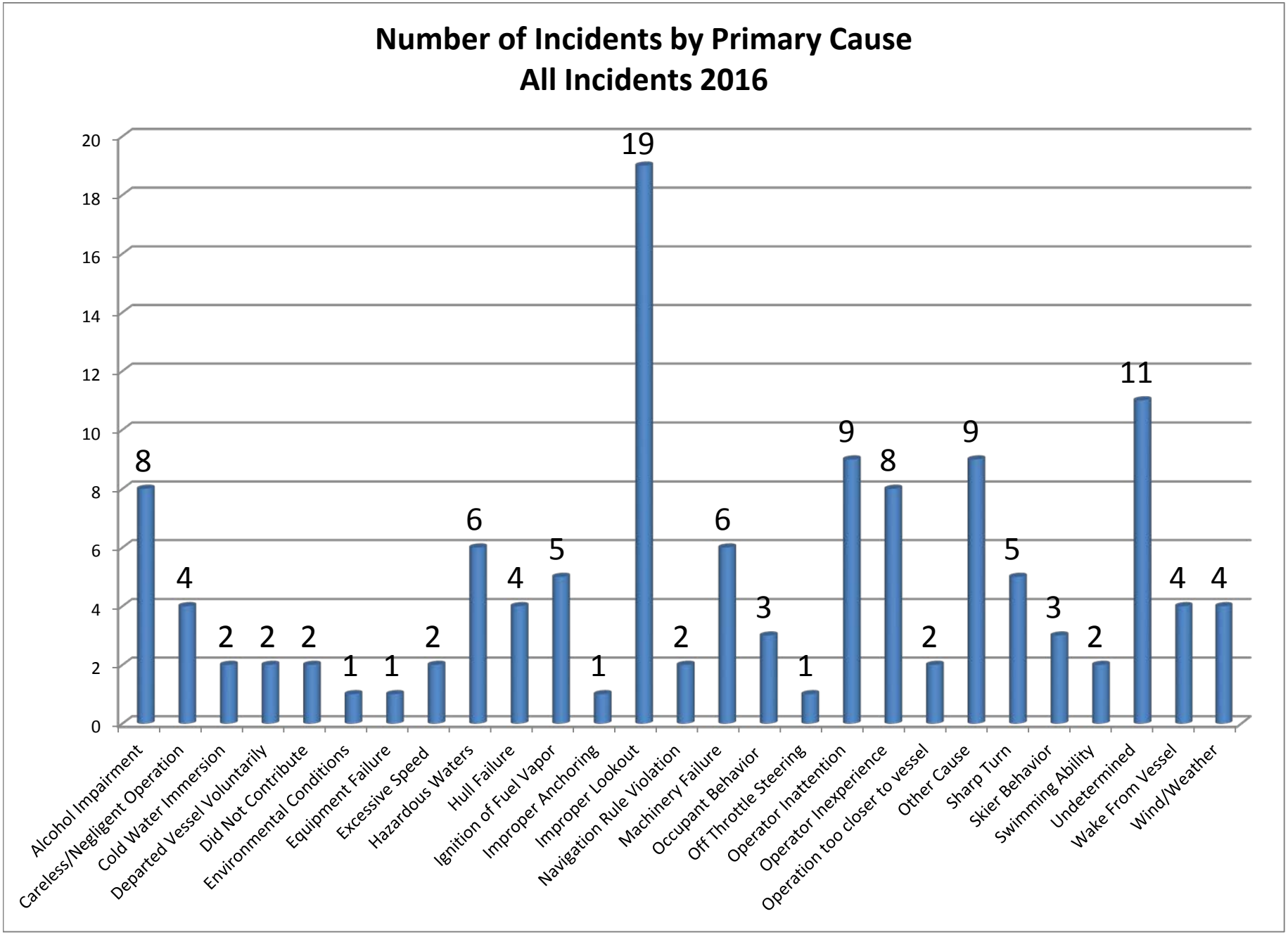

Number of Vessels by Length Category
All Incidents 2016
Unknown Length
15
Over 65'
7
40' to 65'
7
26' to 40'
9
16' to 26'
107
Under 16'
33
0
20
40
60
80
100
120

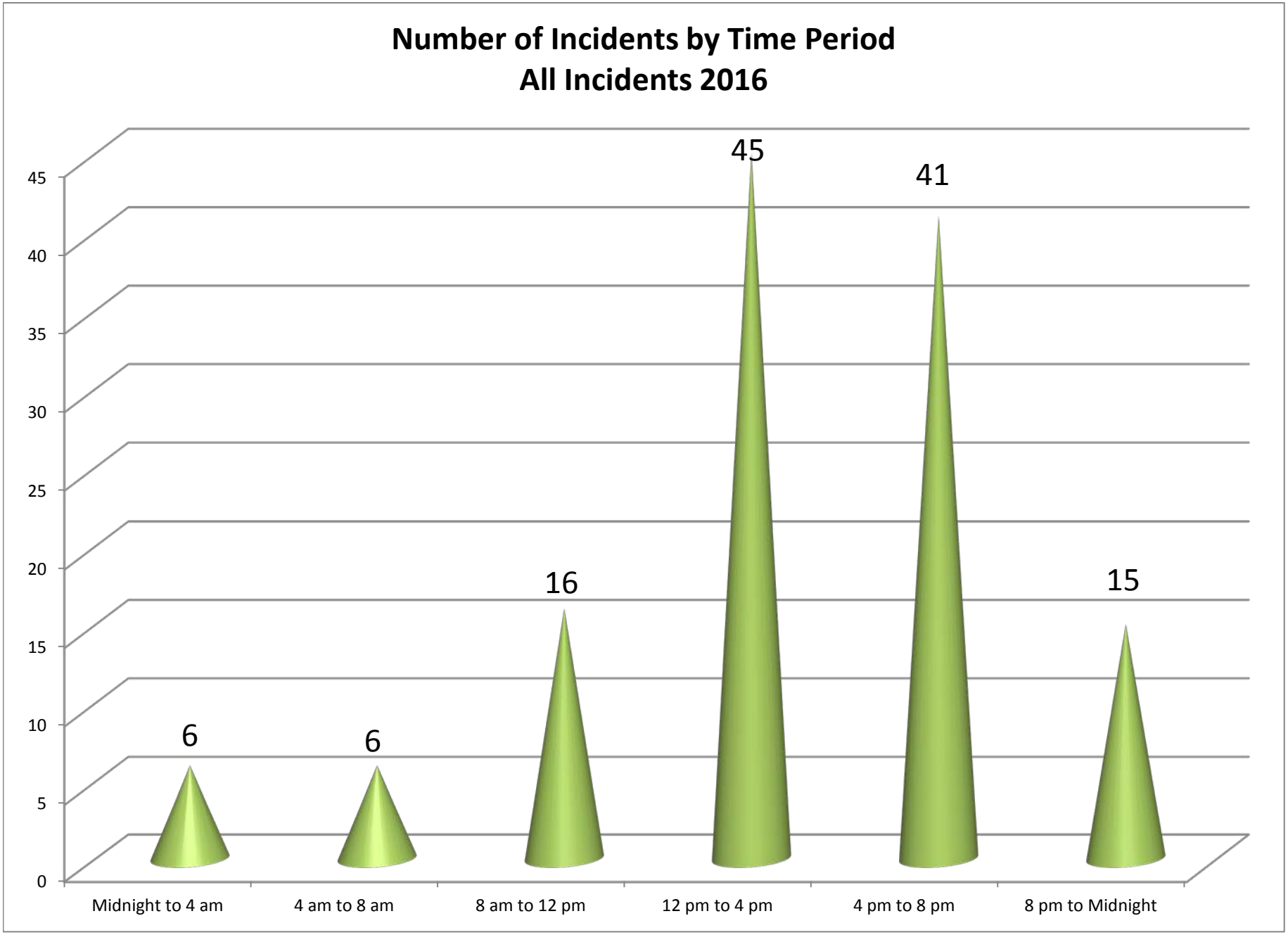

Number of Vessels by Vessel Type
All Incidents 2016
90
80
70
60
50
40
30
20
10
0
14
1
12
7
81
5
24
24
2
Cabin Motorboat
Canoe
Houseboat
Kayak
Open Motorboat
Other
Personal Watercraft
Pontoon Boat
Raft

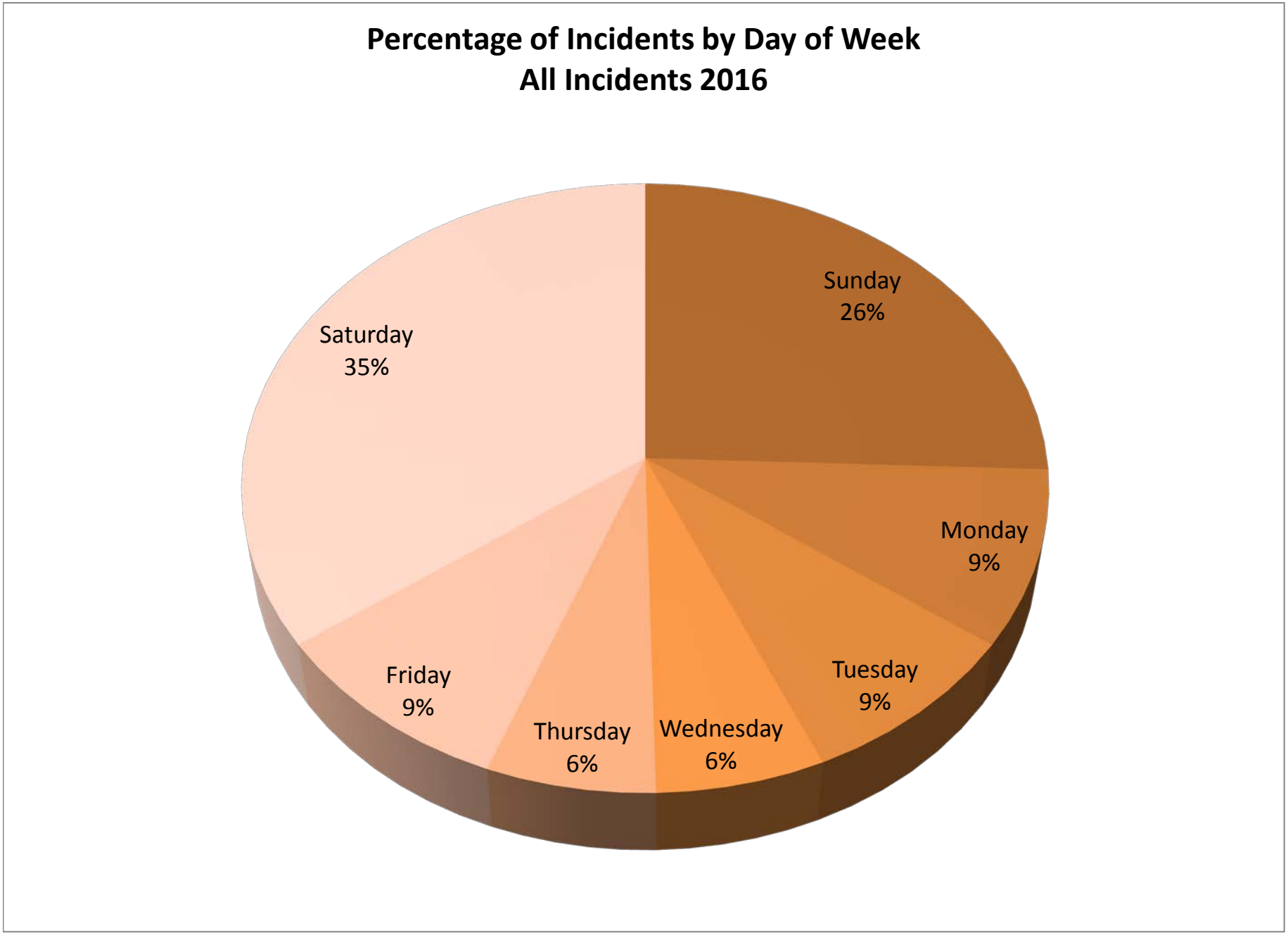

Number of Vessels Involved by Incident Type
All Incidents 2016
Unknown/undetermined
4
Struck underwater object
8
Struck by skeg/prop(person)
5
Struck by boat(person)
5
Skier Hit Object
10
Sinking
12
Occupant impacts vessel
10
Grounding
9
Flooding/Swamping
14
Fire/Explosion(non fuel)
5
Fire/Explosion(fuel)
9
Falls Overboard
15
Fall In Boat
2
Ejected from vessel
21
Departed vessel voluntarily
8
Collision with Vessel
56
Collision-floating object/person
3
Collision-fixed object
16
Carbon Monoxide
1
Capsizing
12
0
10
20
30
40
50
60

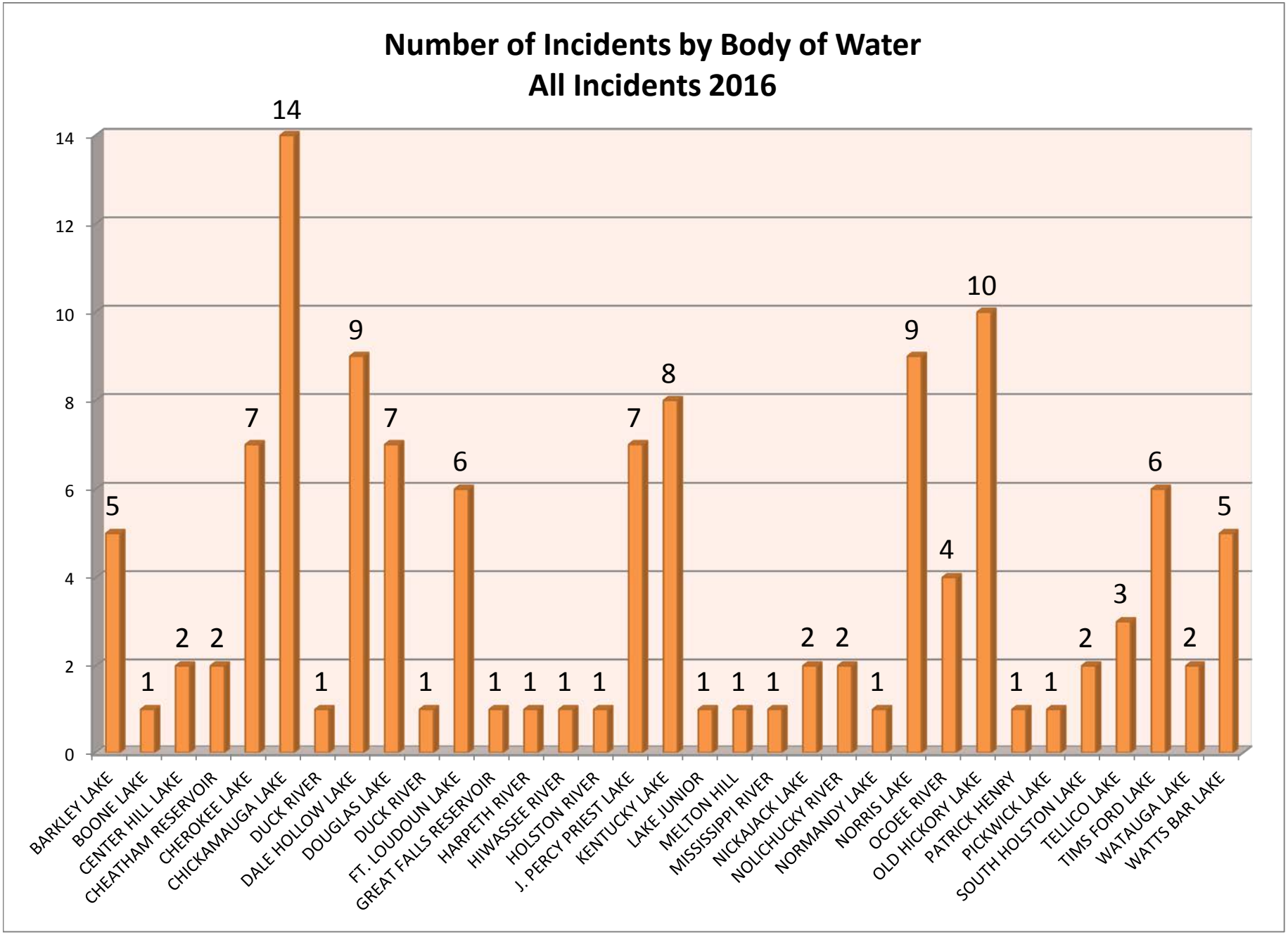

Number of Vessels by Operation Type
All Incidents 2016
Wake/Surf jumping
4
Rowing/Paddling
8
Other
8
Launching/Loading
3
Drifting
20
Docking/Undocking
8
Docked(moored)
22
Cruising
75
Changing speed
27
Changing direction
24
At anchor
14
0
10
20
30
40
50
60
70
80

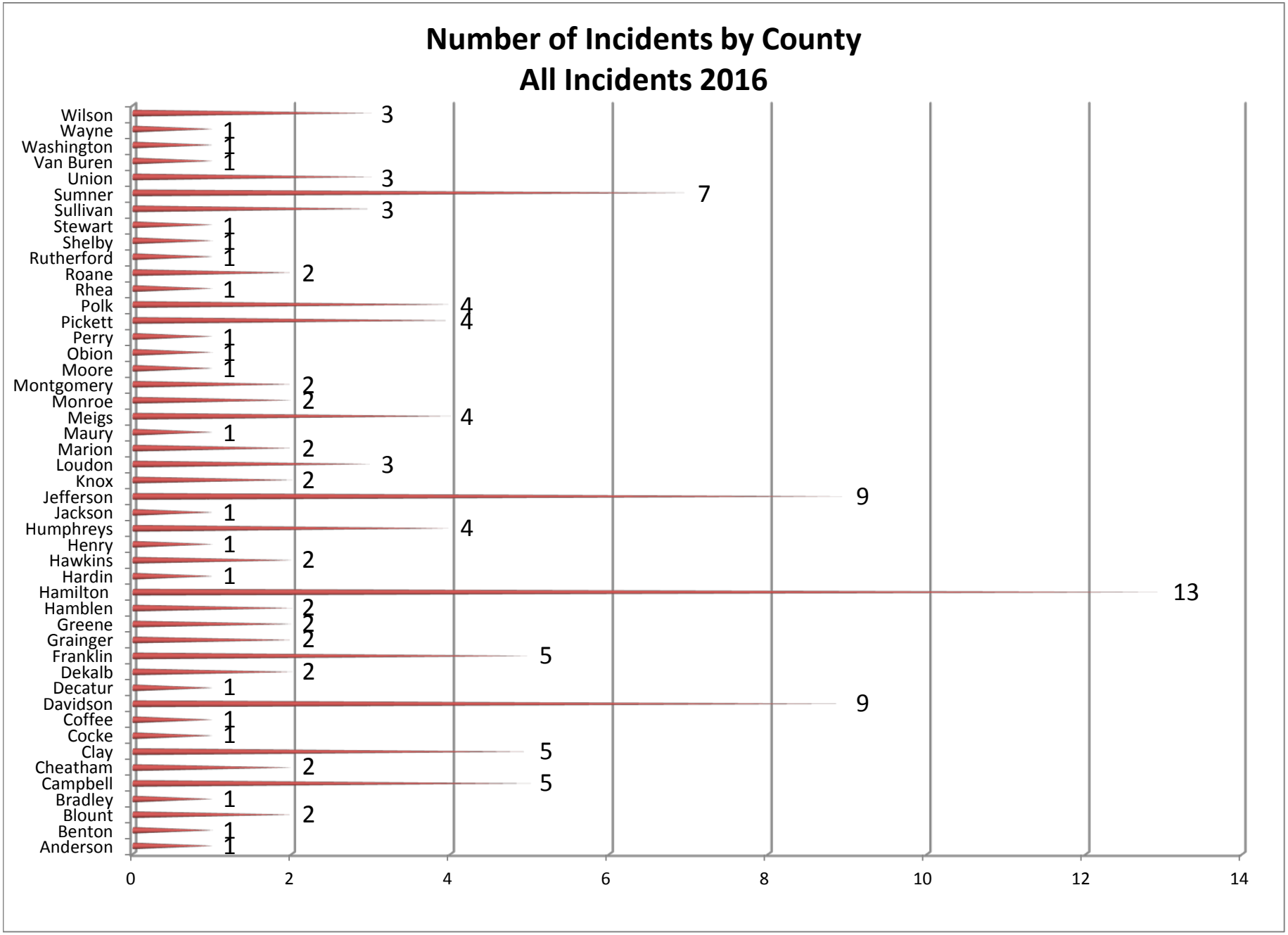

Activity at Time of Incident
All Incidents 2016
70
60
50
40
30
20
10
0
30
3
2
26
66
7
17
4
6
8
Fishing(recreational)
Hunting
Making repairs
None
Recreational cruising
Recreational paddling
Skiing(skurfing, etc)
Starting engine
Swimming/Snorkeling
Tournament fishing

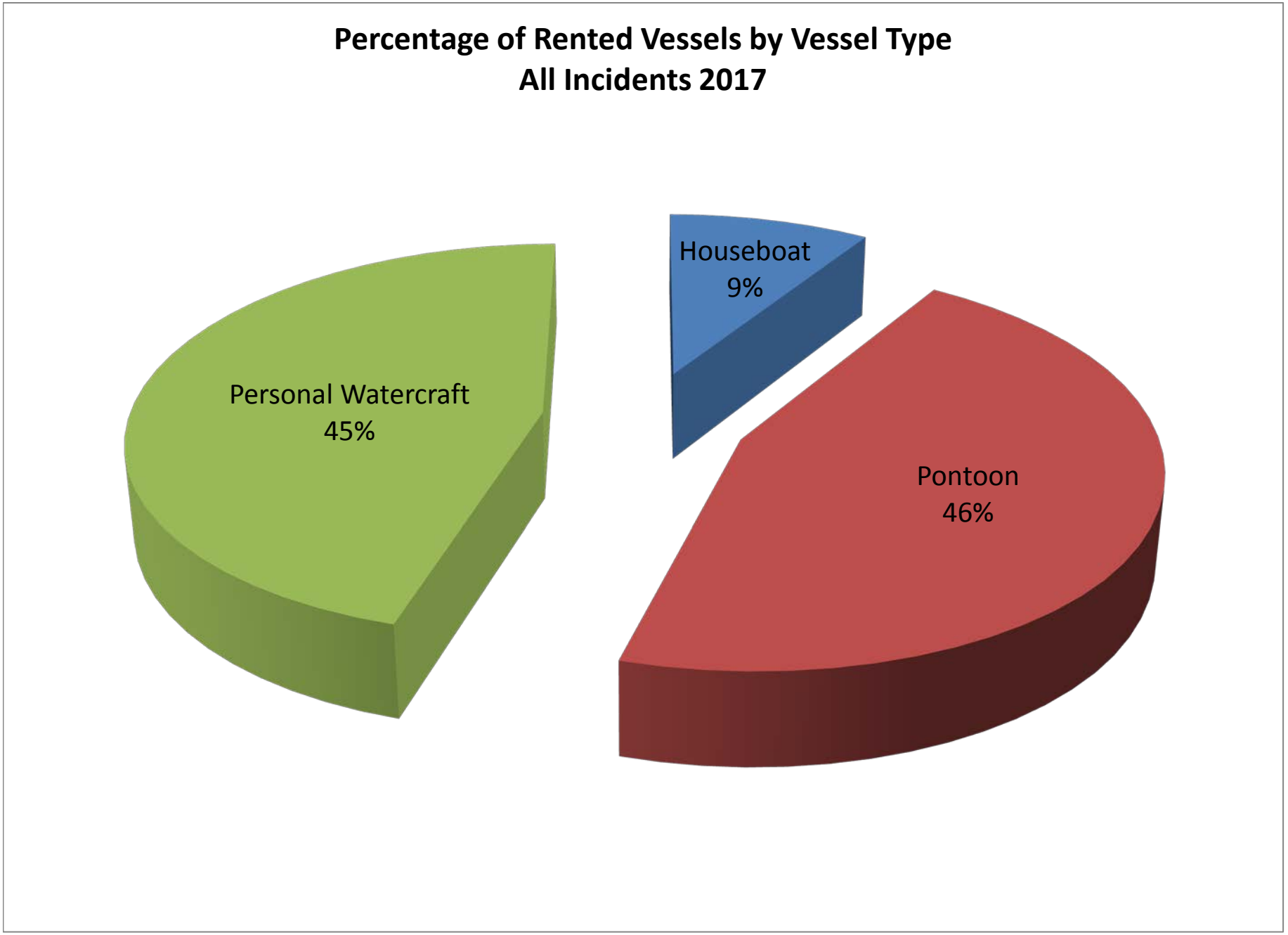

Number of Incidents by Primary Cause
All Incidents 2016
0
2
4
6
8
10
12
14
16
18
20
8
4
2
2
2
1
1
2
6
4
5
1
19
2
6
3
1
9
8
2
9
5
3
2
11
4
4
Alcohol Impairment
Careless/Negligent Operation
Cold Water Immersion
Departed Vessel Voluntarily
Did Not Contribute
Environmental Conditions
Equipment Failure
Excessive Speed
Hazardous Waters
Hull Failure
Ignition of Fuel Vapor
Improper Anchoring
Improper Lookout
Navigation Rule Violation
Machinery Failure
Occupant Behavior
Off Throttle Steering
Operator Inattention
Operator Inexperience
Operation too closer to vessel
Other Cause
Sharp Turn
Skier Behavior
Swimming Ability
Undetermined
Wake From Vessel
Wind/Weather

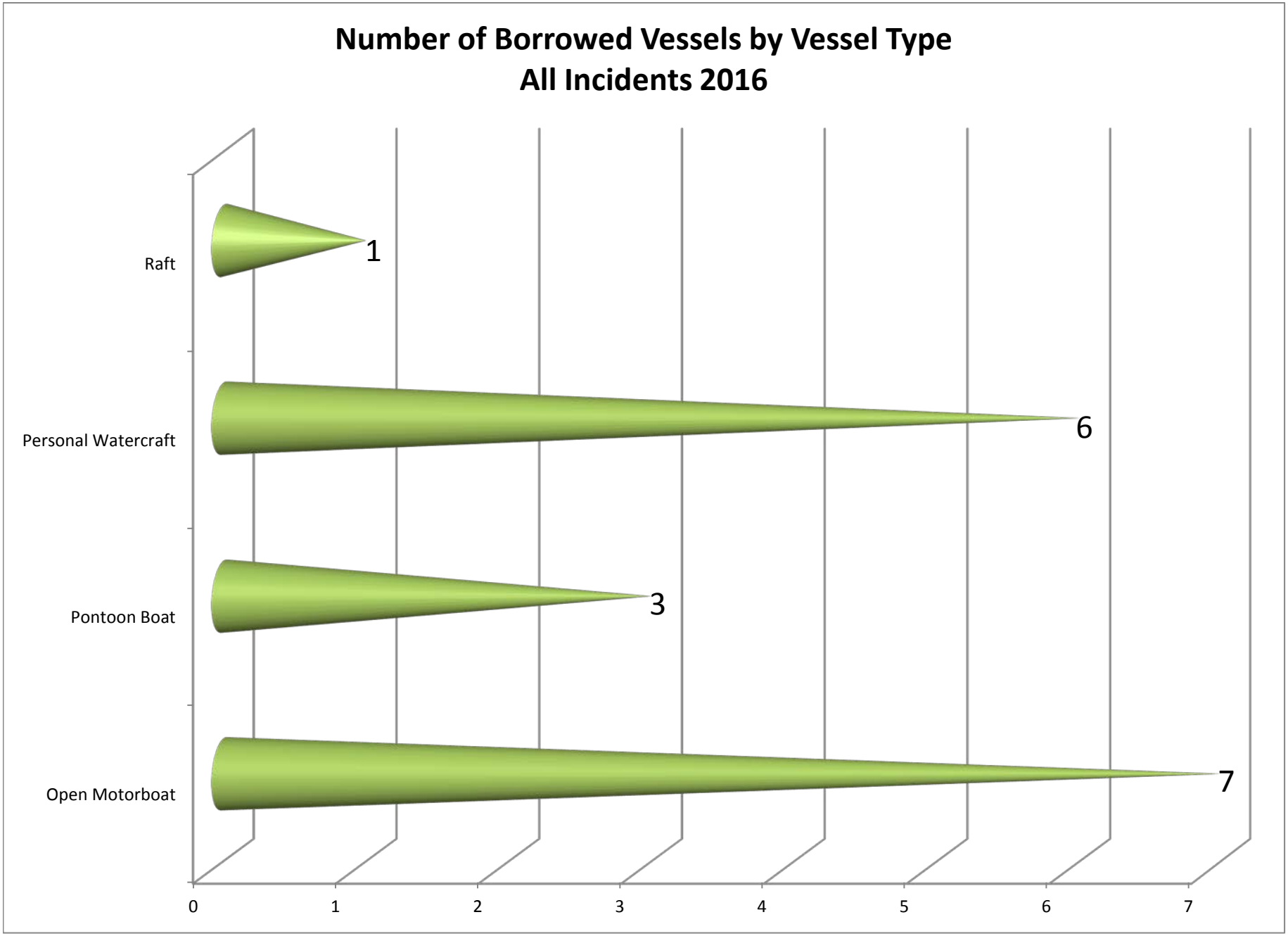

Number of Incidents by Time Period
All Incidents 2016
45
40
35
30
25
20
15
10
5
0
6
6
16
45
41
15
Midnight to 4 am
4 am to 8 am
8 am to 12 pm
12 pm to 4 pm
4 pm to 8 pm
8 pm to Midnight

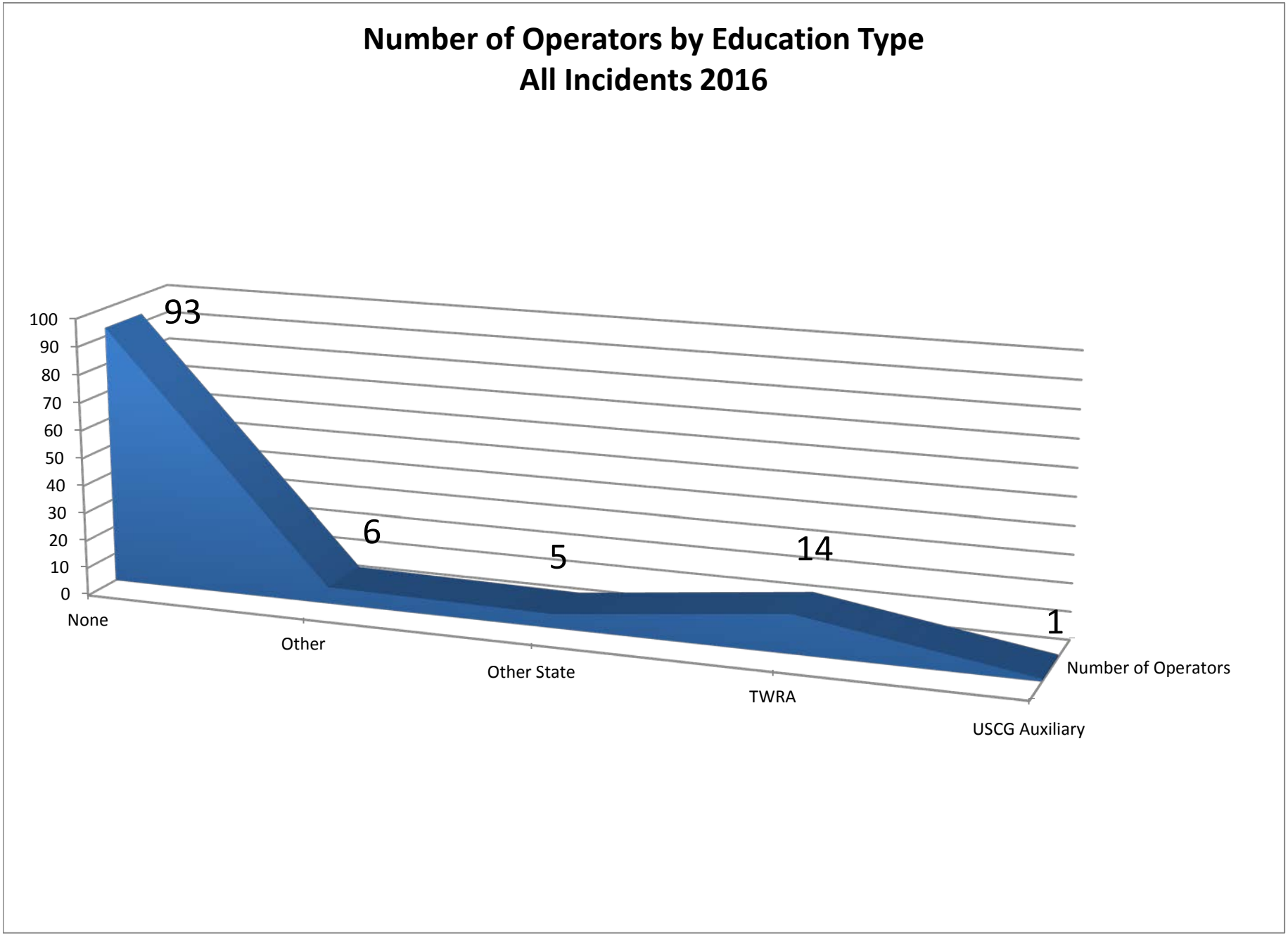

Percentage of Incidents by Day of Week
All Incidents 2016
Sunday
26%
Monday
9%
Tuesday
9%
Wednesday
6%
Thursday
6%
Friday
9%
Saturday
35%

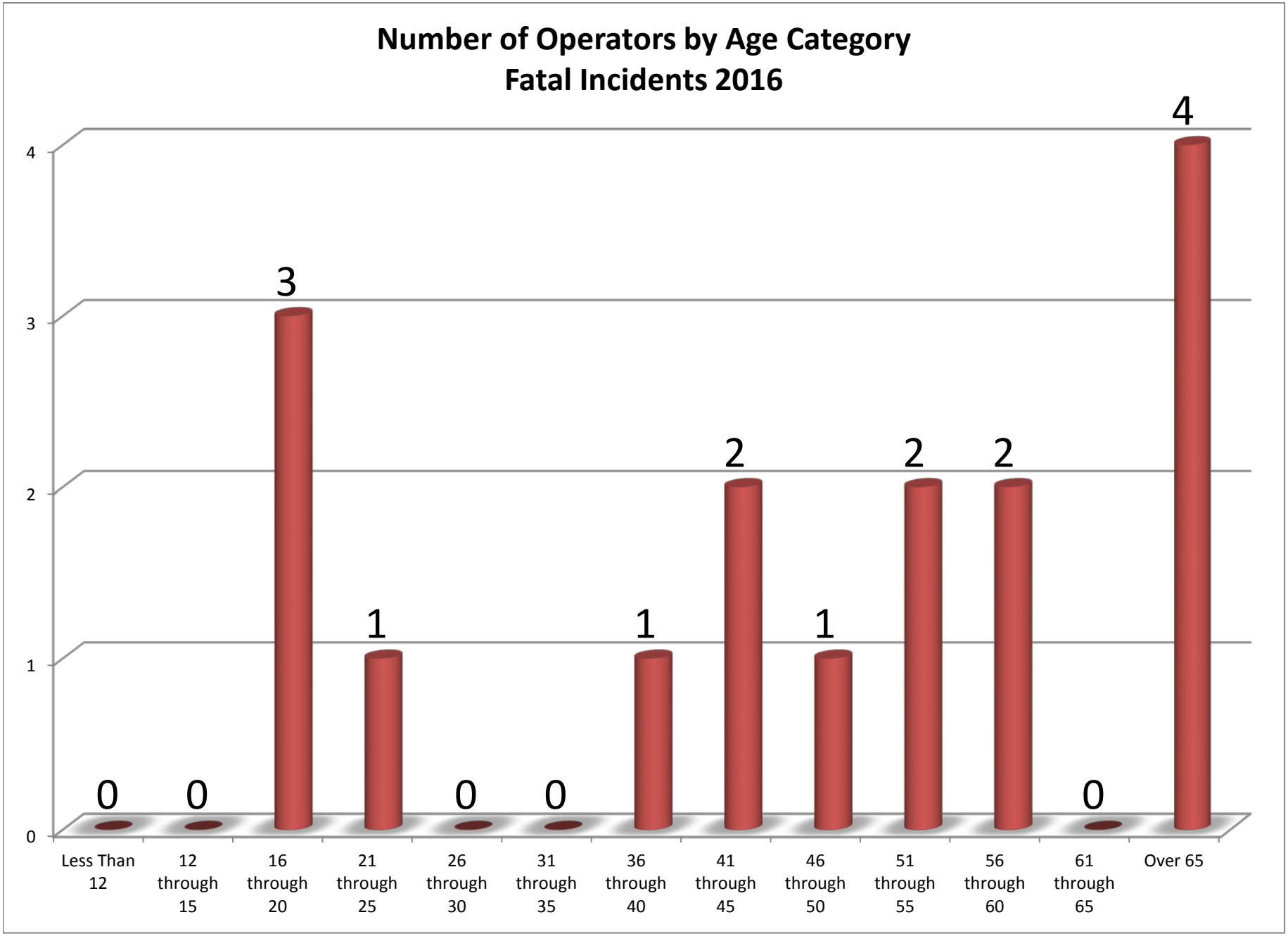

Number of Incidents by Body of Water
All Incidents 2016
0
2
4
6
8
10
12
14
5
1
2
2
7
14
1
9
7
1
6
1
1
1
1
7
8
1
1
1
2
2
1
9
4
10
1
1
2
3
6
2
5
BARKLEY LAKE
BOONE LAKE
CENTER HILL LAKE
CHEATHAM RESERVOIR
CHEROKEE LAKE
CHICKAMAUGA LAKE
DUCK RIVER
DALE HOLLOW LAKE
DOUGLAS LAKE
DUCK RIVER
FT. LOUDOUN LAKE
GREAT FALLS RESERVOIR
HARPETH RIVER
HIWASSEE RIVER
HOLSTON RIVER
J. PERCY PRIEST LAKE
KENTUCKY LAKE
LAKE JUNIOR
MELTON HILL
MISSISSIPPI RIVER
NICKAJACK LAKE
NOLICHUCKY RIVER
NORMANDY LAKE
NORRIS LAKE
OCOEE RIVER
OLD HICKORY LAKE
PATRICK HENRY
PICKWICK LAKE
SOUTH HOLSTON LAKE
TELLICO LAKE
TIMS FORD LAKE
WATAUGA LAKE
WATTS BAR LAKE

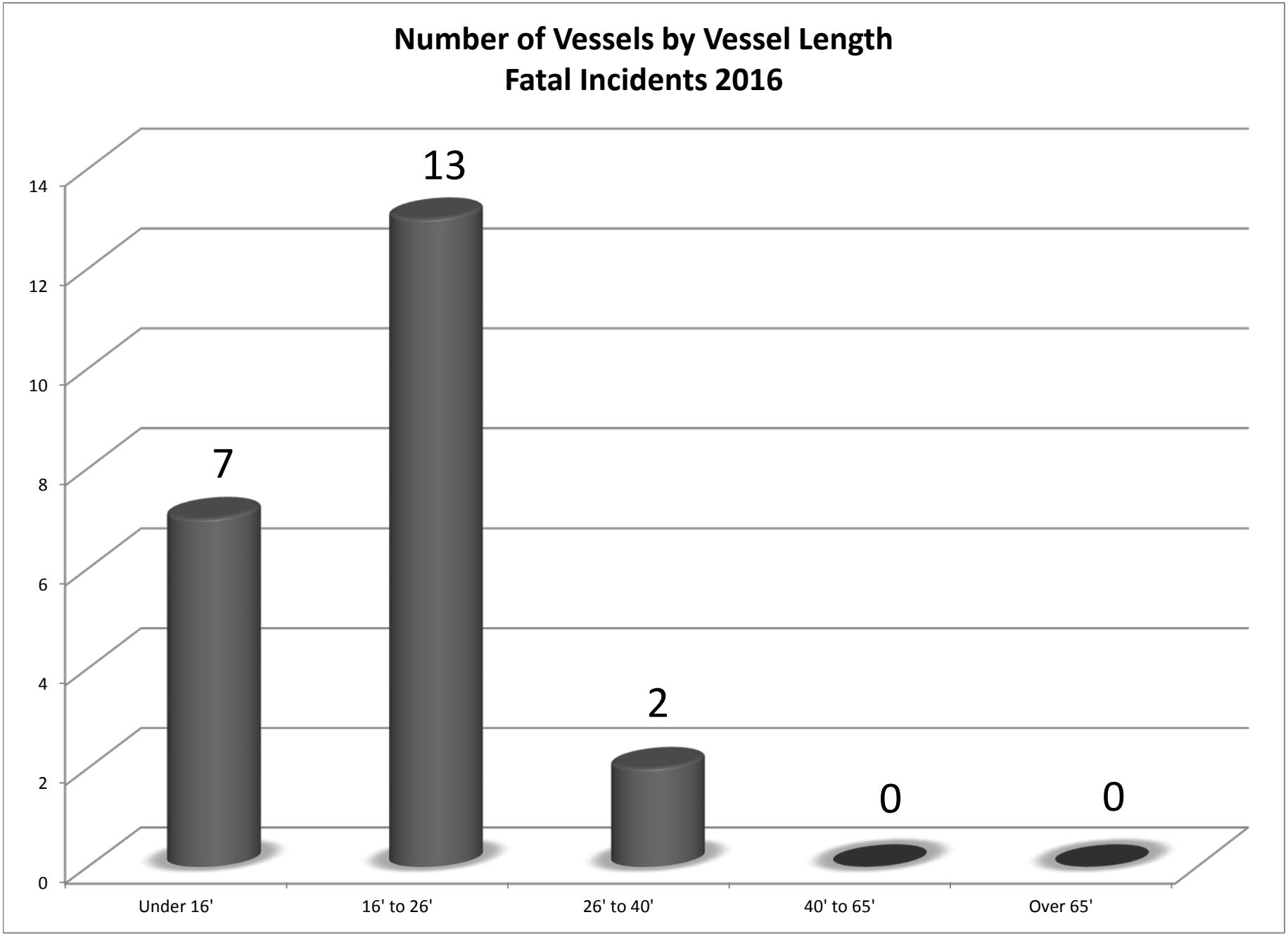

Number of Incidents by County
All Incidents 2016
Wilson 3
Wayne 1
Washington 1
Van Buren 1
Union 3
Sumner 7
Sullivan 3
Stewart 1
Shelby 1
Rutherford 1
Roane 2
Rhea 1
Polk 4
Pickett 4
Perry 1
Obion 1
Moore 1
Montgomery 2
Monroe 2
Meigs 4
Maury 1
Marion 2
Loudon 3
Knox 2
Jefferson 9
Jackson 1
Humphreys 4
Henry 1
Hawkins 2
Hardin 1
Hamilton 13
Hamblen 2
Greene 2
Grainger 2
Franklin 5
Dekalb 2
Decatur 1
Davidson 9
Coffee 1
Cocke 1
Clay 5
Cheatham 2
Campbell 5
Bradley 1
Blount 2
Benton 1
Anderson 1
0
2
4
6
8
10
12
14

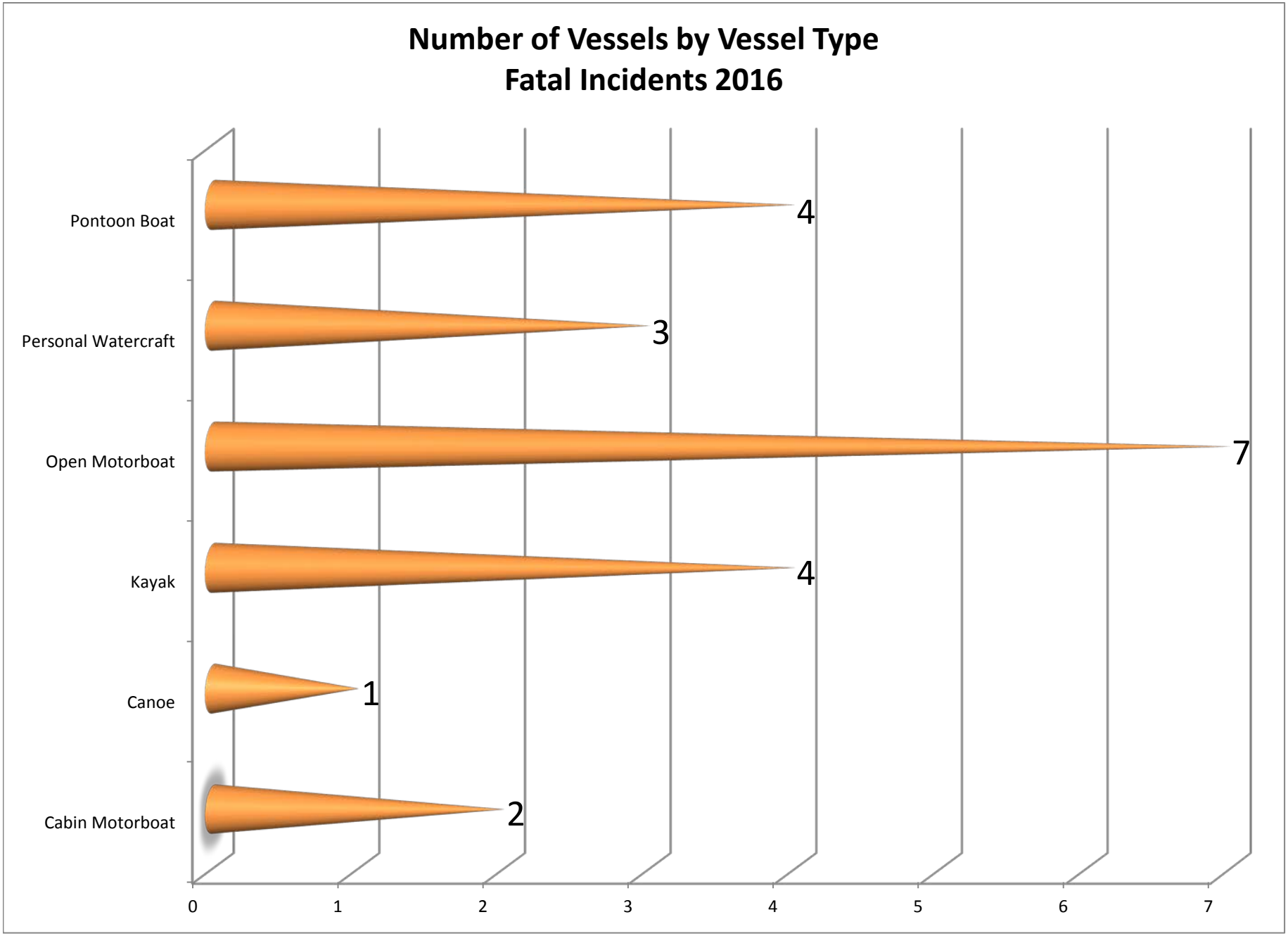

Percentage of Rented Vessels by Vessel Type
All Incidents 2017
Houseboat
9%
Personal Watercraft
45%
Pontoon
46%

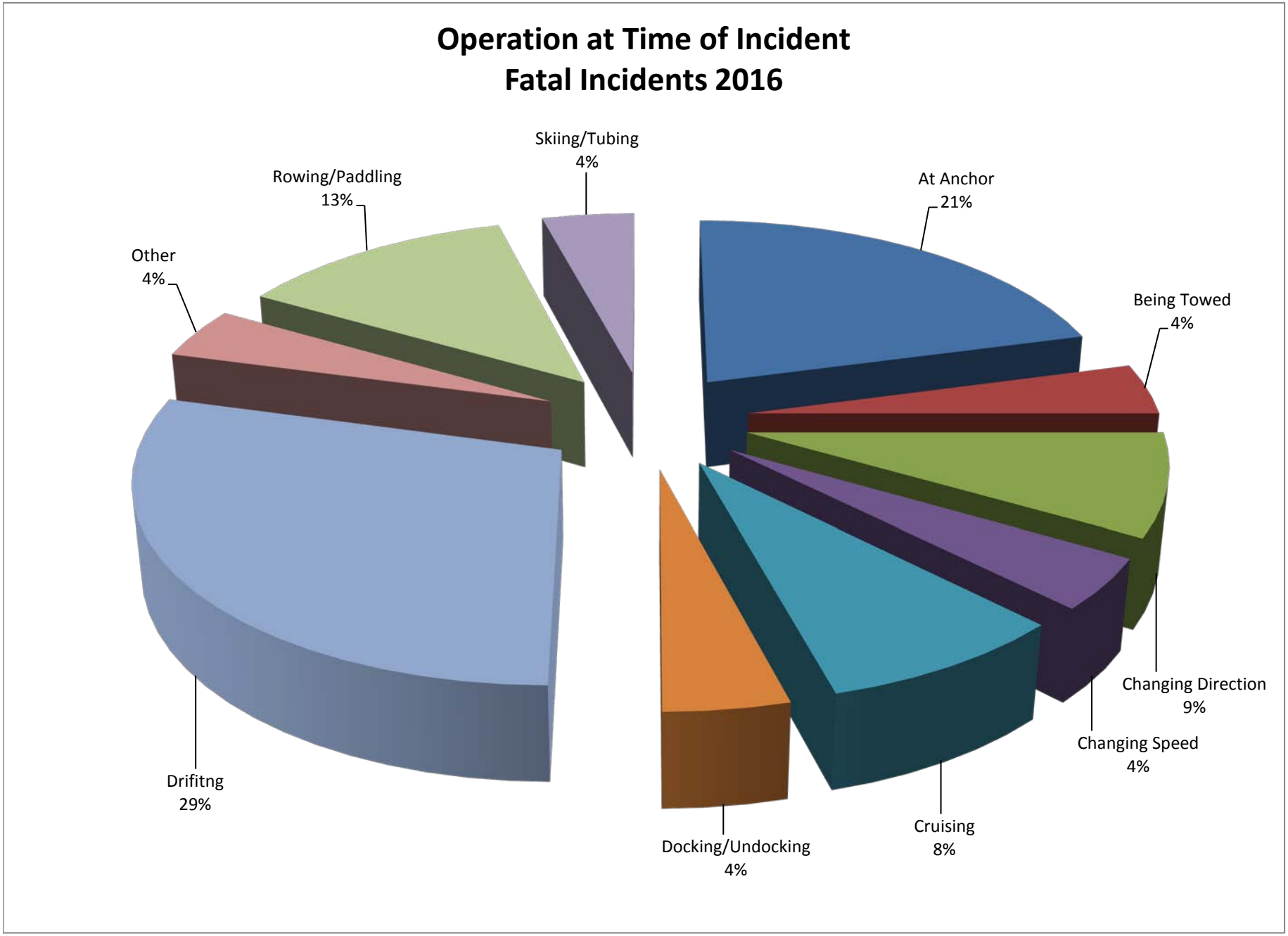

Number of Borrowed Vessels by Vessel Type
All Incidents 2016
Raft
Personal Watercraft
Pontoon Boat
Open Motorboat
1
6
3
7
0
1
2
3
4
5
6
7

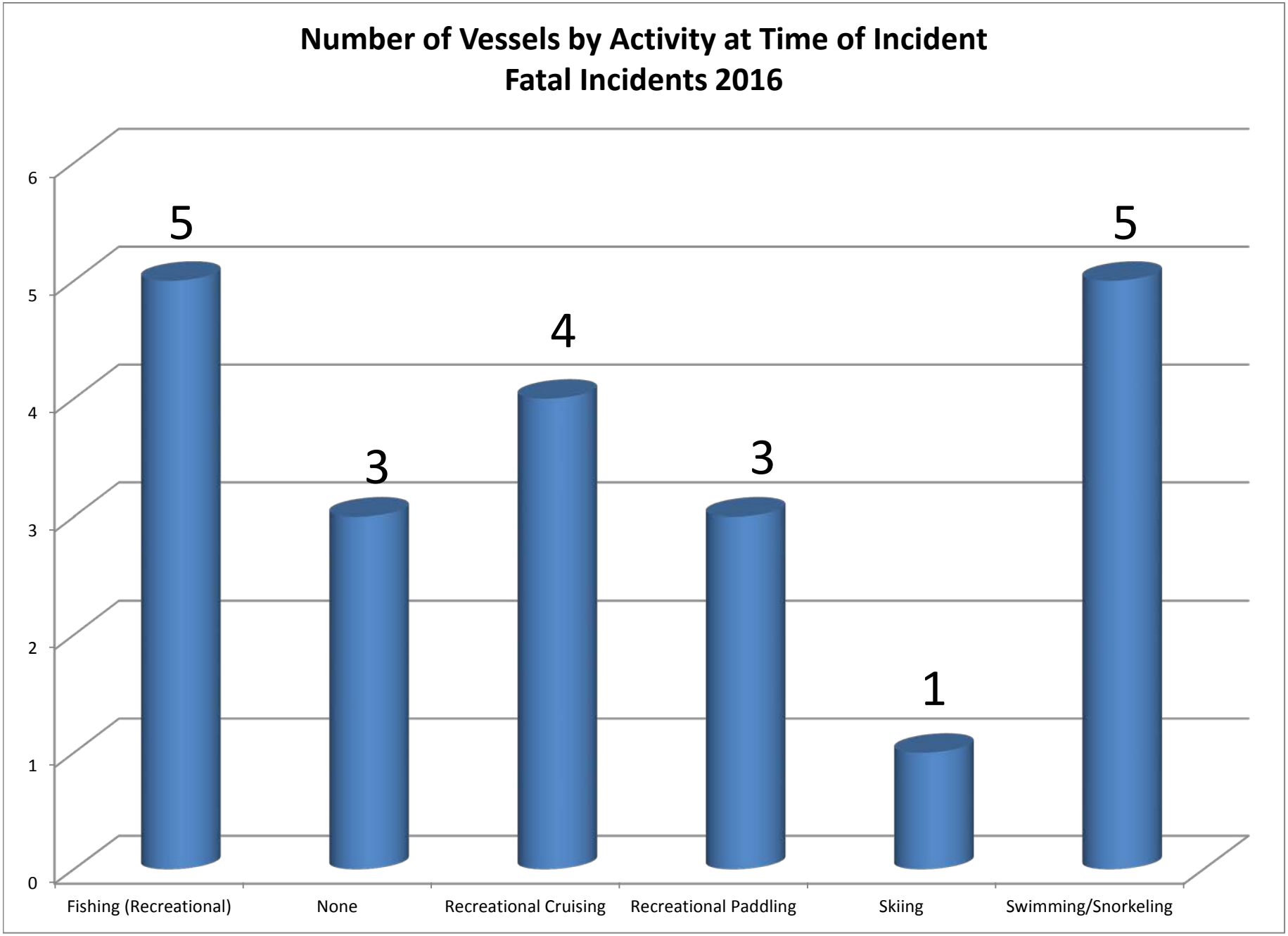

Number of Operators by Education Type
All Incidents 2016
100
90
80
70
60
50
40
30
20
10
0
93
6
5
14
1
None
Other
Other State
TWRA
USCG Auxiliary
Number of Operators

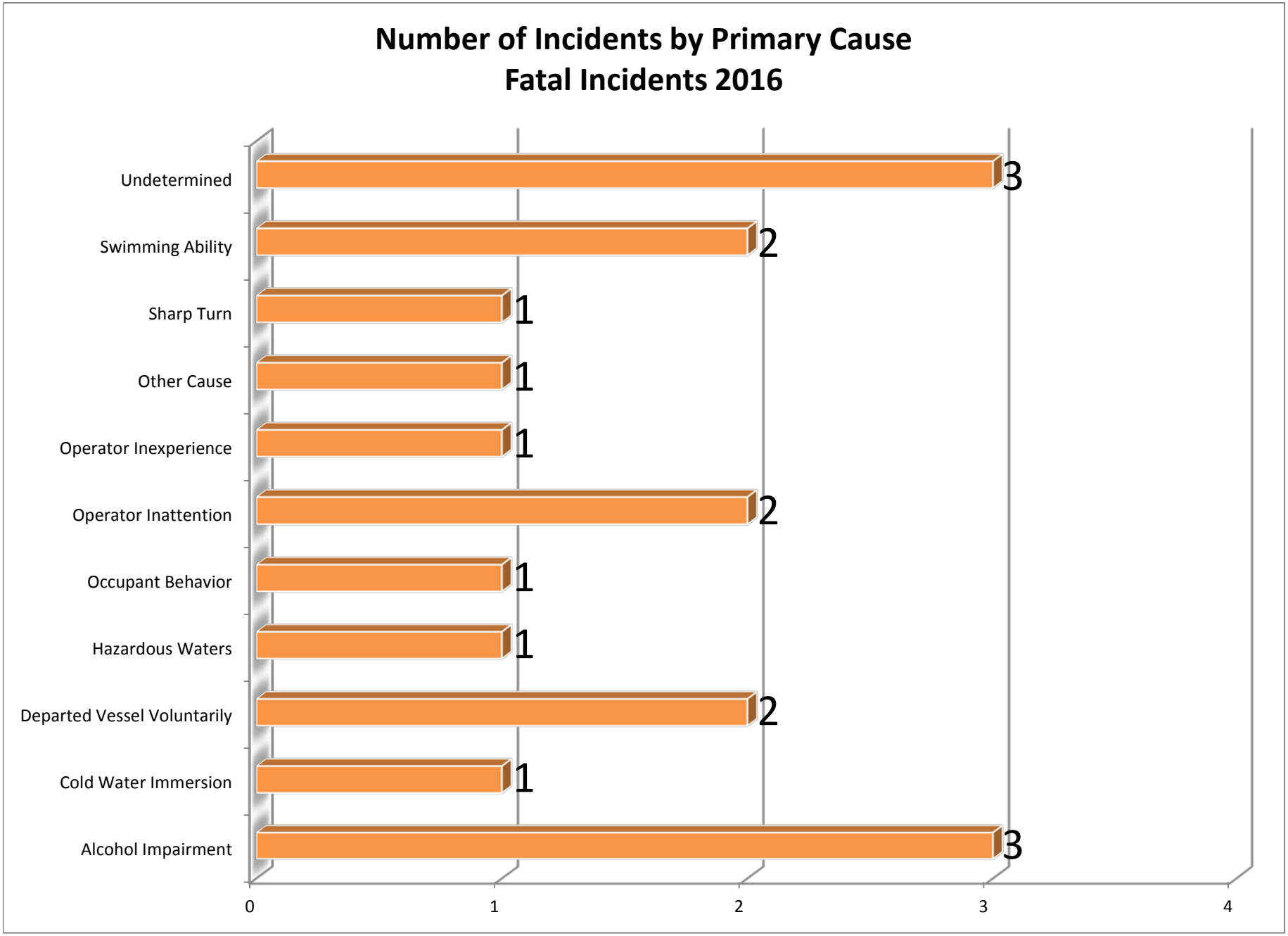

Number of Operators by Age Category
Fatal Incidents 2016
4
3
2
1
0
0
0
3
1
0
0
1
2
1
2
2
0
4
Less Than 12
12 through 15
16 through 20
21 through 25
26 through 30
31 through 35
36 through 40
41 through 45
46 through 50
51 through 55
56 through 60
61 through 65
Over 65

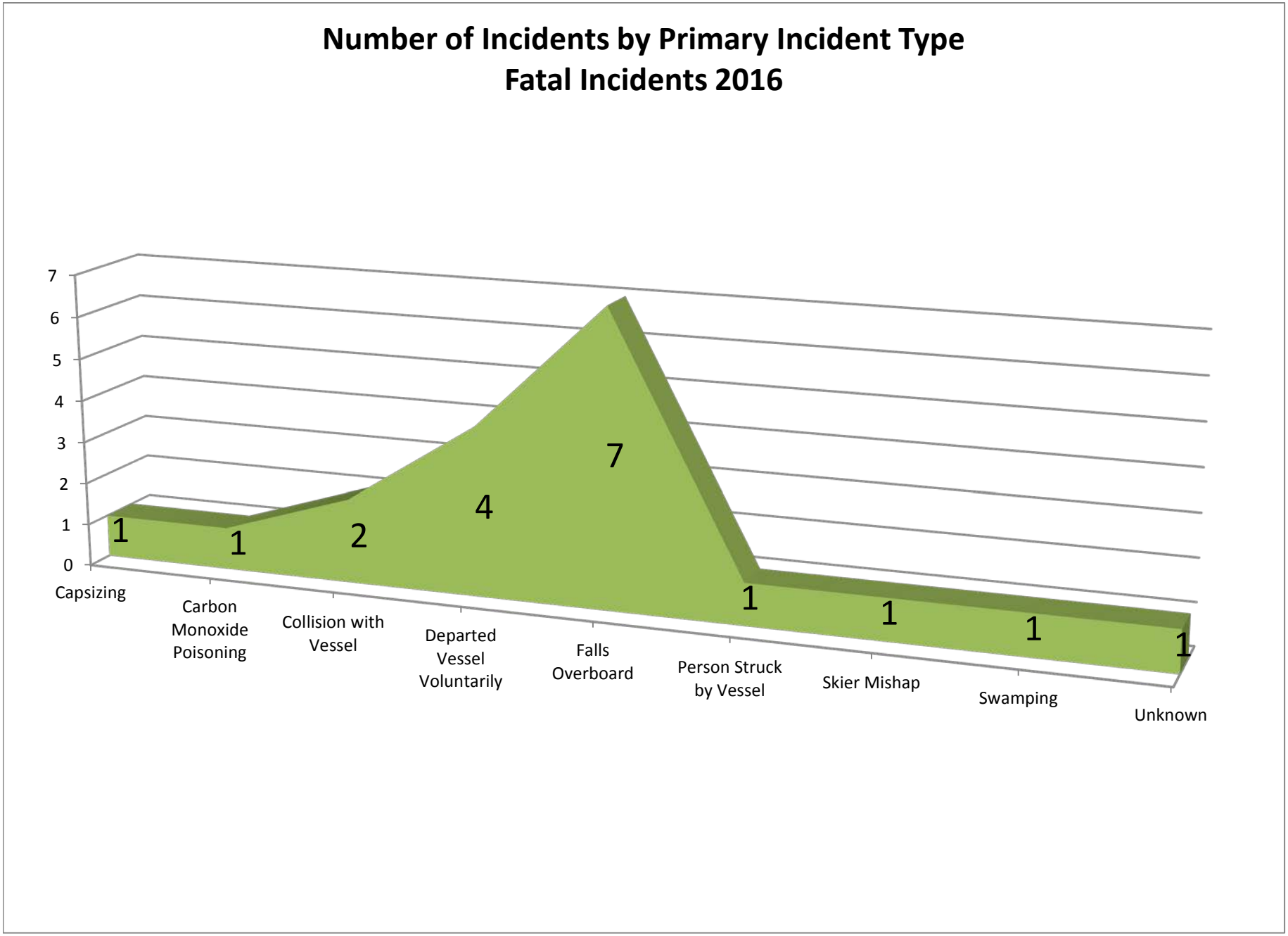

Number of Vessels by Vessel Length
Fatal Incidents 2016
14
12
10
8
6
4
2
0
7
13
2
0
0
Under 16'
16' to 26'
26' to 40'
40' to 65'
Over 65'

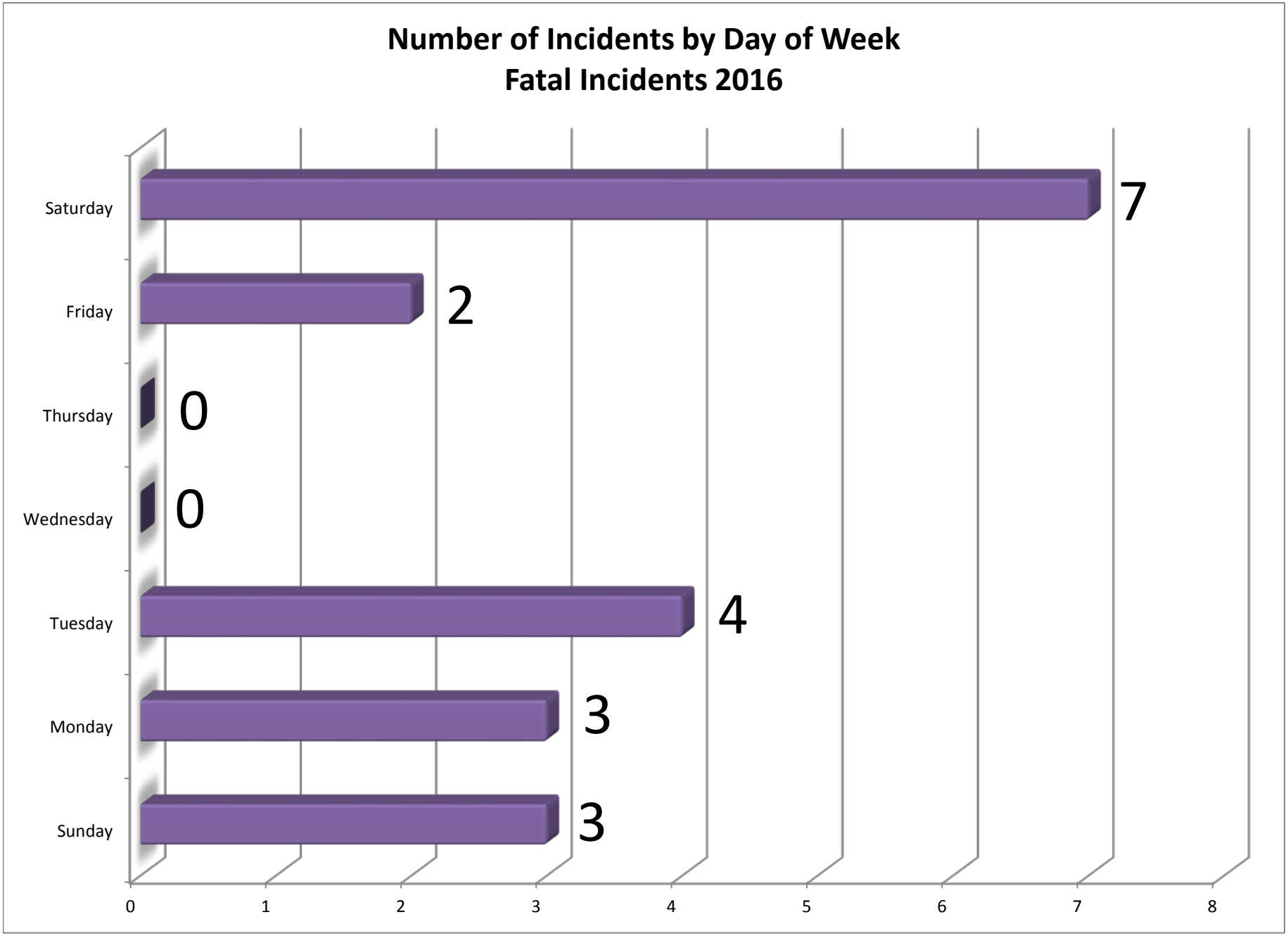

Number of Vessels by Vessel Type
Fatal Incidents 2016
Pontoon Boat
Personal Watercraft
Open Motorboat
Kayak
Canoe
Cabin Motorboat
4
3
7
4
1
2
0
1
2
3
4
5
6
7

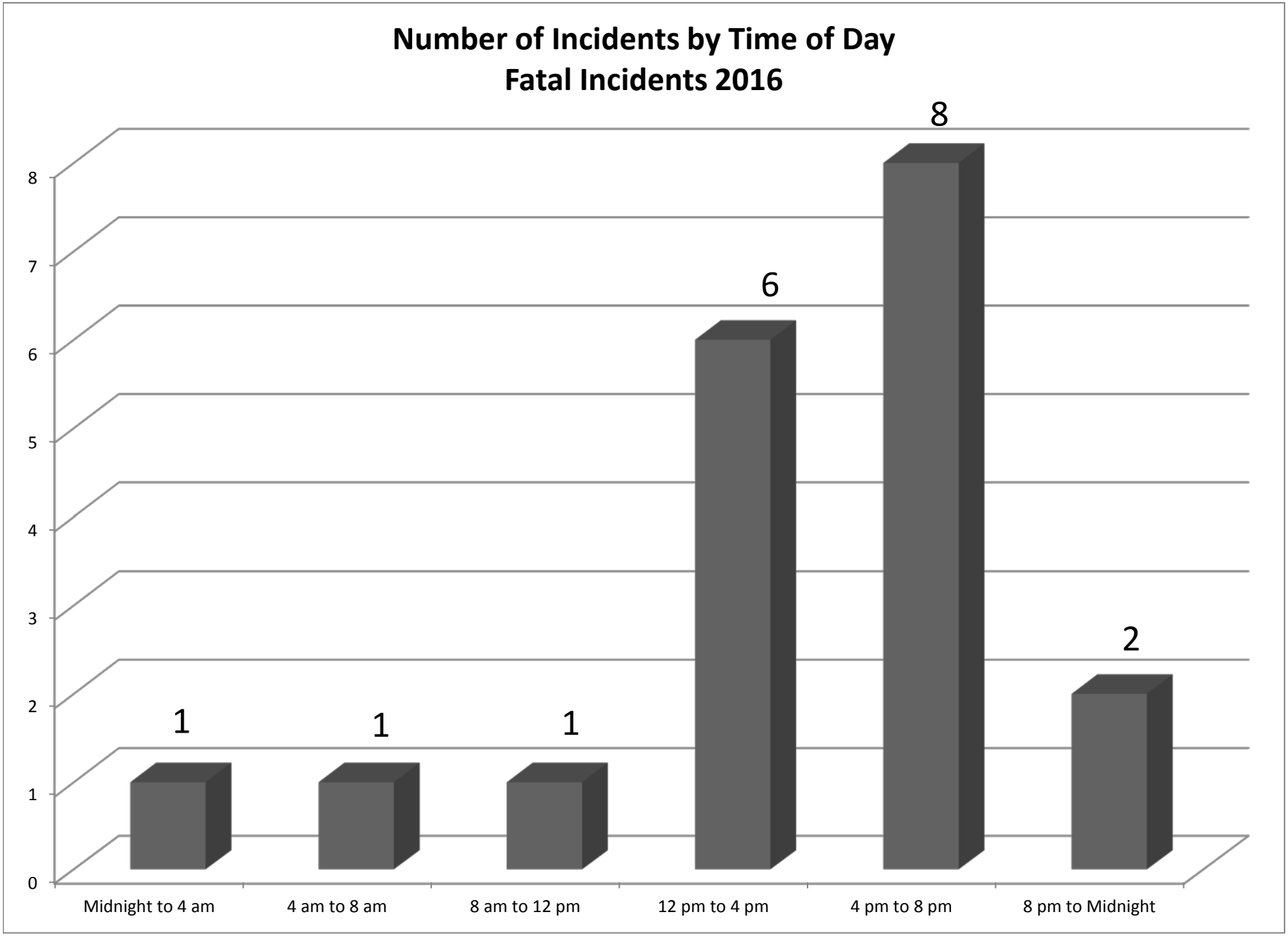

Operation at Time of Incident
Fatal Incidents 2016
Skiing/Tubing
4%
Rowing/Paddling
13%
At Anchor
21%
Other
4%
Being Towed
4%
Changing Direction
9%
Changing Speed
4%
Drifitng
29%
Cruising
8%
Docking/Undocking
4%

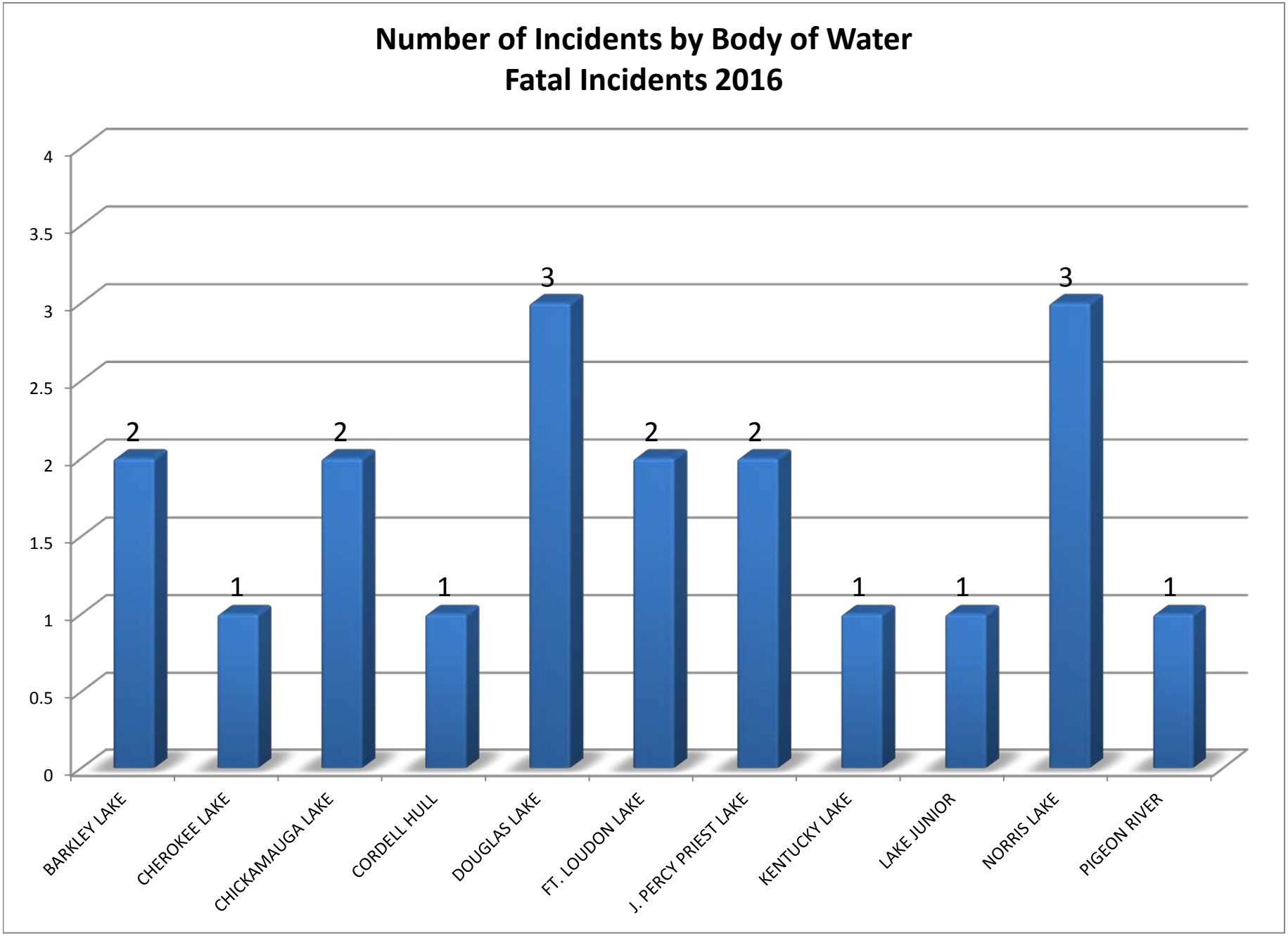

Number of Vessels by Activity at Time of Incident
Fatal Incidents 2016
6
5
4
3
2
1
0
5
3
4
3
1
5
Fishing (Recreational)
None
Recreational Cruising
Recreational Paddling
Skiing
Swimming/Snorkeling

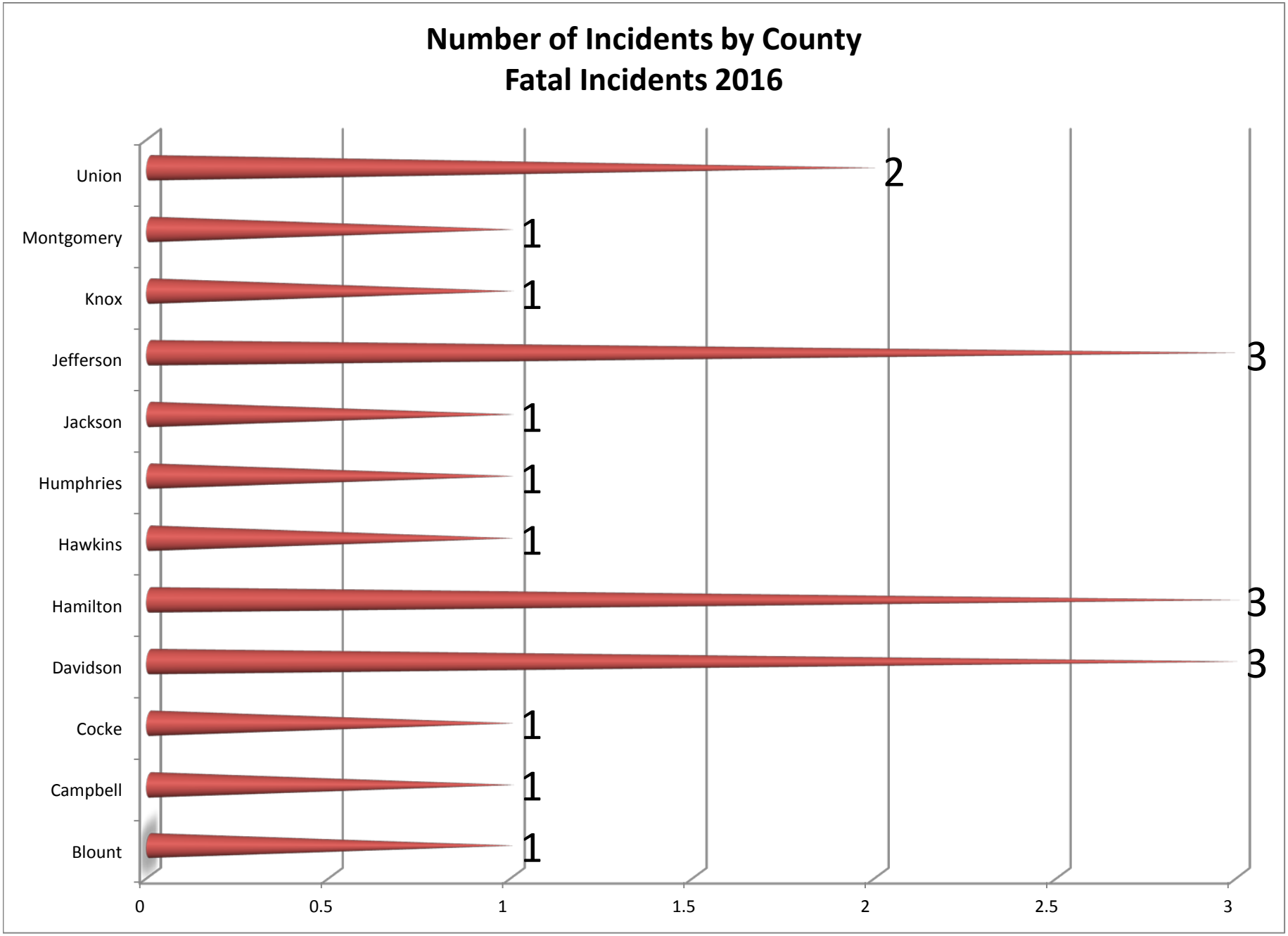

Number of Incidents by Primary Cause
Fatal Incidents 2016
Undetermined
Swimming Ability
Sharp Turn
Other Cause
Operator Inexperience
Operator Inattention
Occupant Behavior
Hazardous Waters
Departed Vessel Voluntarily
Cold Water Immersion
Alcohol Impairment
3
2
1
1
1
2
1
1
2
1
3
0
1
2
3
4

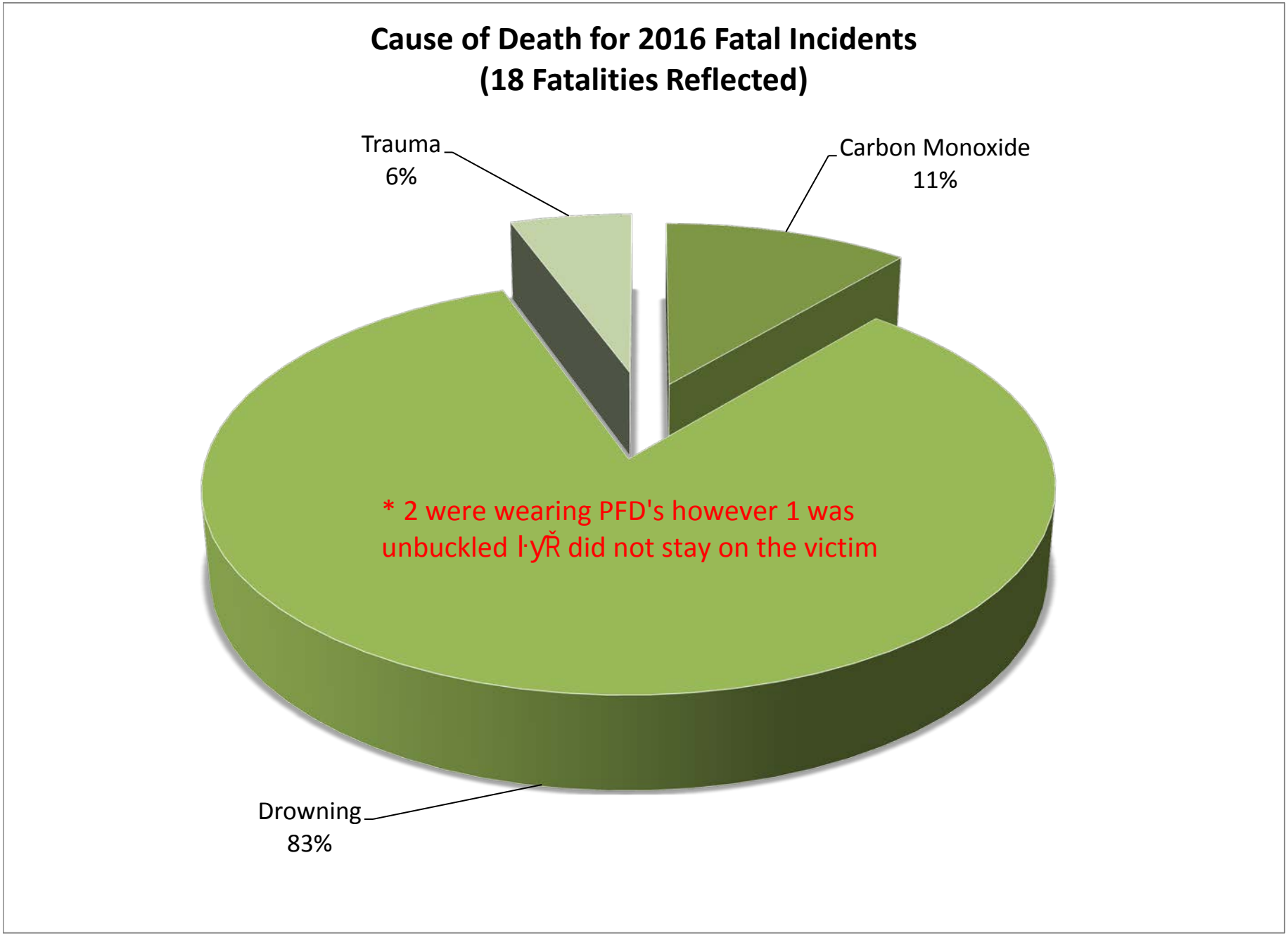

Number of Incidents by Primary Incident Type
Fatal Incidents 2016
7
6
5
4
3
2
1
0
1
1
2
4
7
1
1
1
1
Capsizing
Carbon Monoxide Poisoning
Collision with Vessel
Departed Vessel Voluntarily
Falls Overboard
Person Struck by Vessel
Skier Mishap
Swamping
Unknown

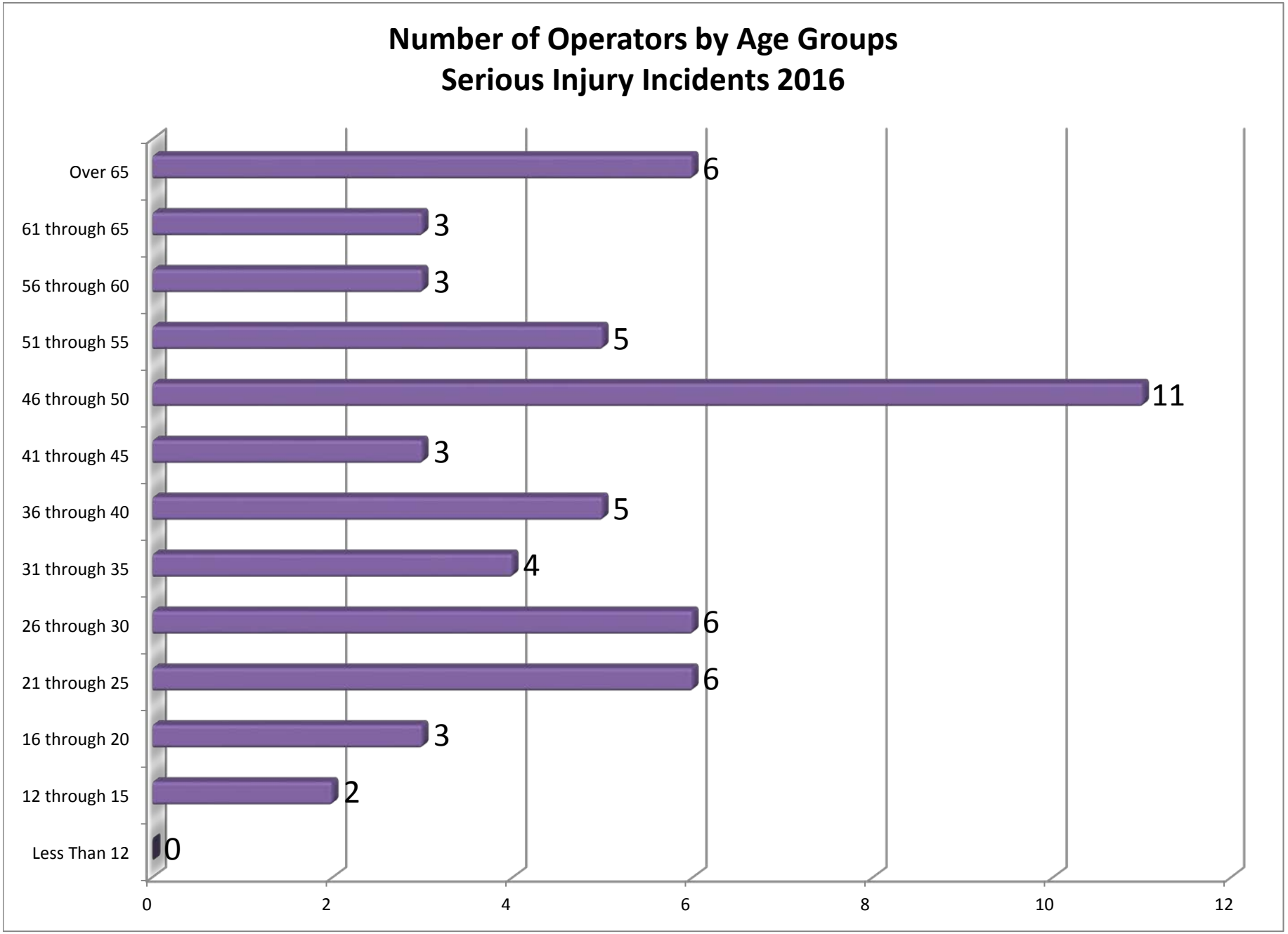

Number of Incidents by Day of Week
Fatal Incidents 2016
Saturday
Friday
Thursday
Wednesday
Tuesday
Monday
Sunday
7
2
0
0
4
3
3
0
1
2
3
4
5
6
7
8

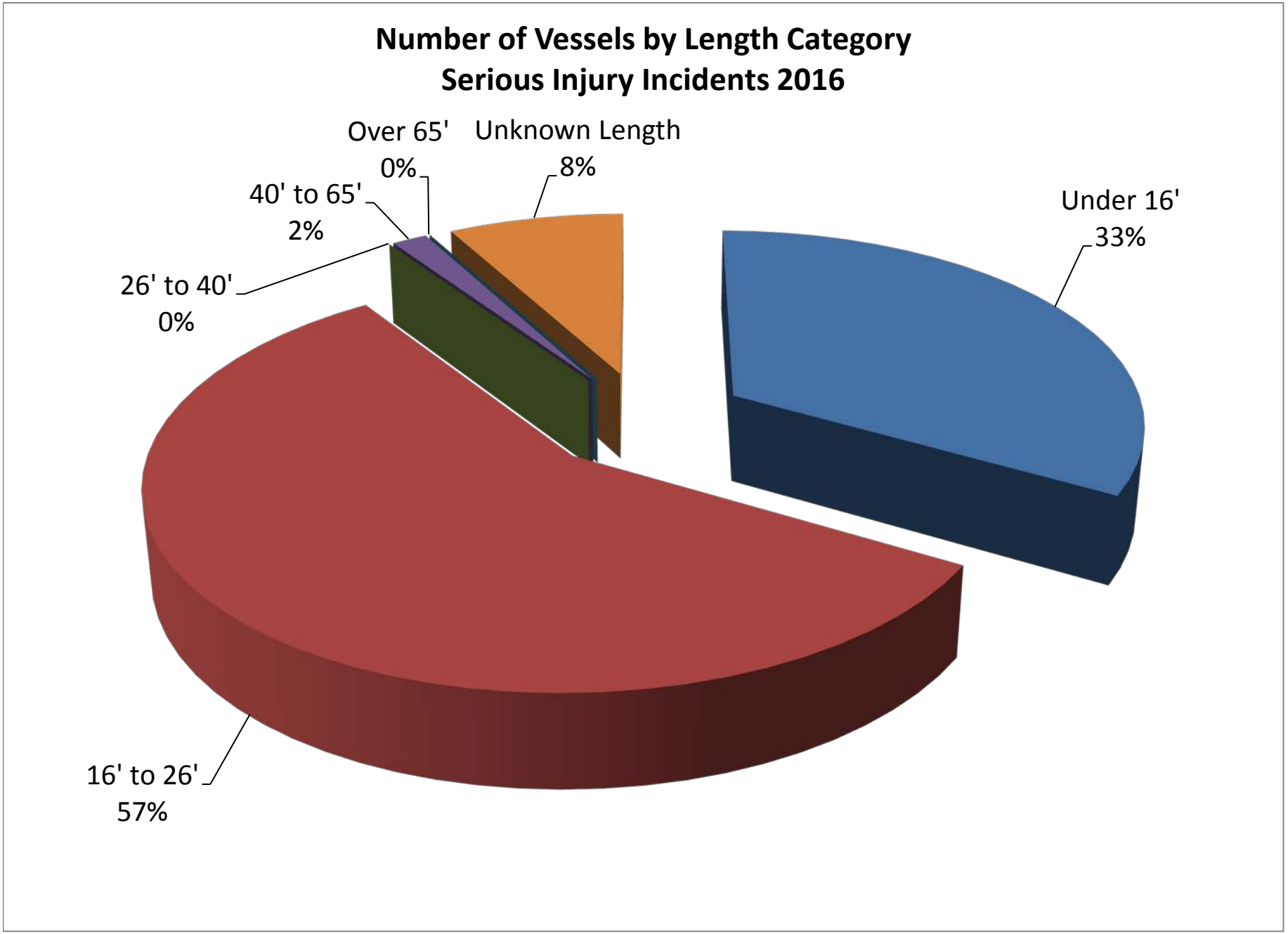

Number of Incidents by Time of Day
Fatal Incidents 2016
0
1
2
3
4
5
6
7
8
1
1
1
6
8
2
Midnight to 4 am
4 am to 8 am
8 am to 12 pm
12 pm to 4 pm
4 pm to 8 pm
8 pm to Midnight

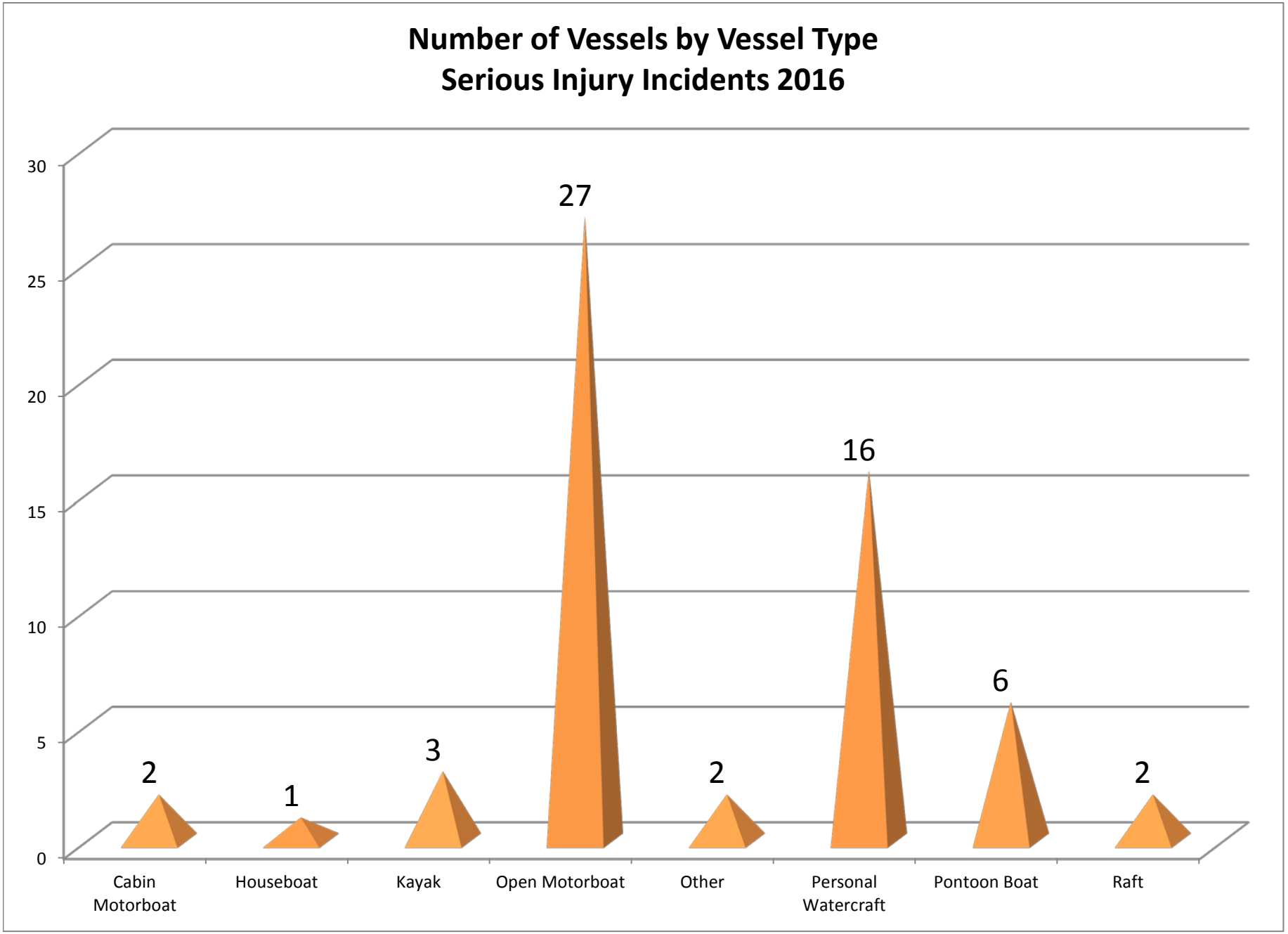

Number of Incidents by Body of Water
Fatal Incidents 2016
4
3.5
3
2.5
2
1.5
1
0.5
0
2
1
2
1
3
2
2
1
1
3
1
BARKLEY LAKE
CHEROKEE LAKE
CHICKAMAUGA LAKE
CORDELL HULL
DOUGLAS LAKE
FT. LOUDON LAKE
J. PERCY PRIEST LAKE
KENTUCKY LAKE
LAKE JUNIOR
NORRIS LAKE
PIGEON RIVER

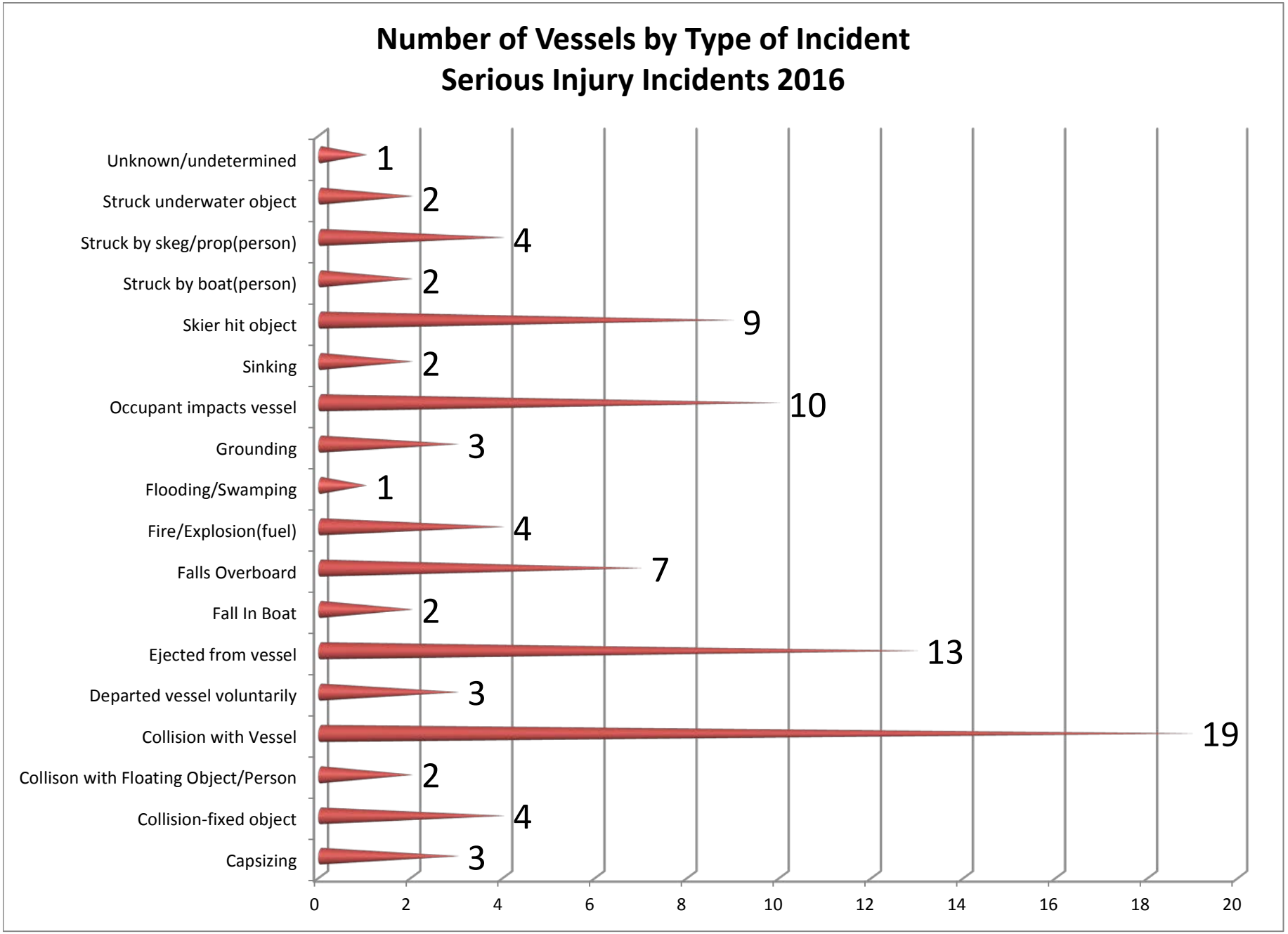

Number of Incidents by County
Fatal Incidents 2016
Union
Montgomery
Knox
Jefferson
Jackson
Humphries
Hawkins
Hamilton
Davidson
Cocke
Campbell
Blount
2
1
1
3
1
1
1
3
3
1
1
1
0
0.5
1
1.5
2
2.5
3

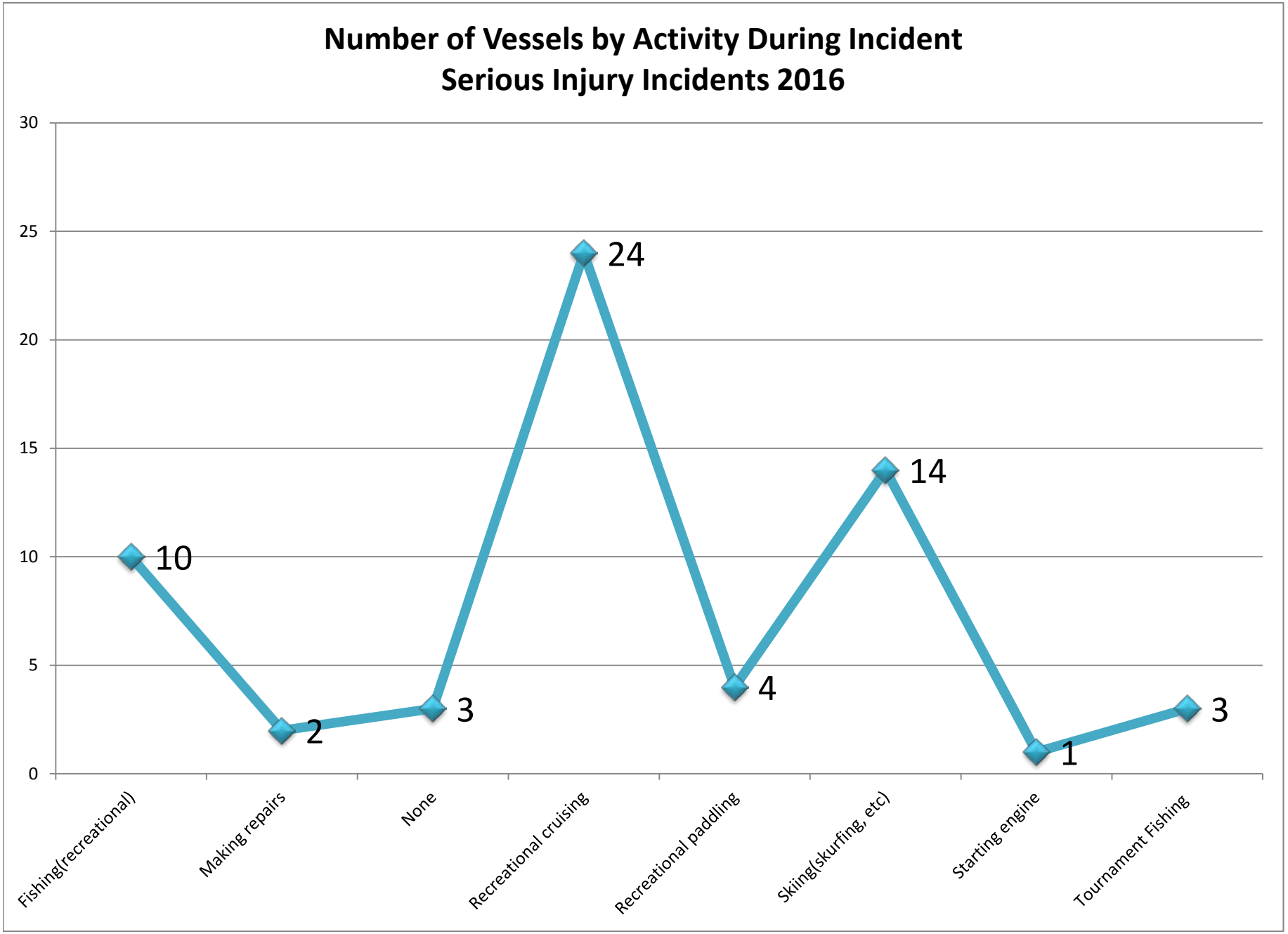

Cause of Death for 2016 Fatal Incidents
(18 Fatalities Reflected)
Trauma
6%
Carbon Monoxide
11%
* 2 were wearing PFD's however 1 was
unbuckled l·yŘ did not stay on the victim
Drowning
83%

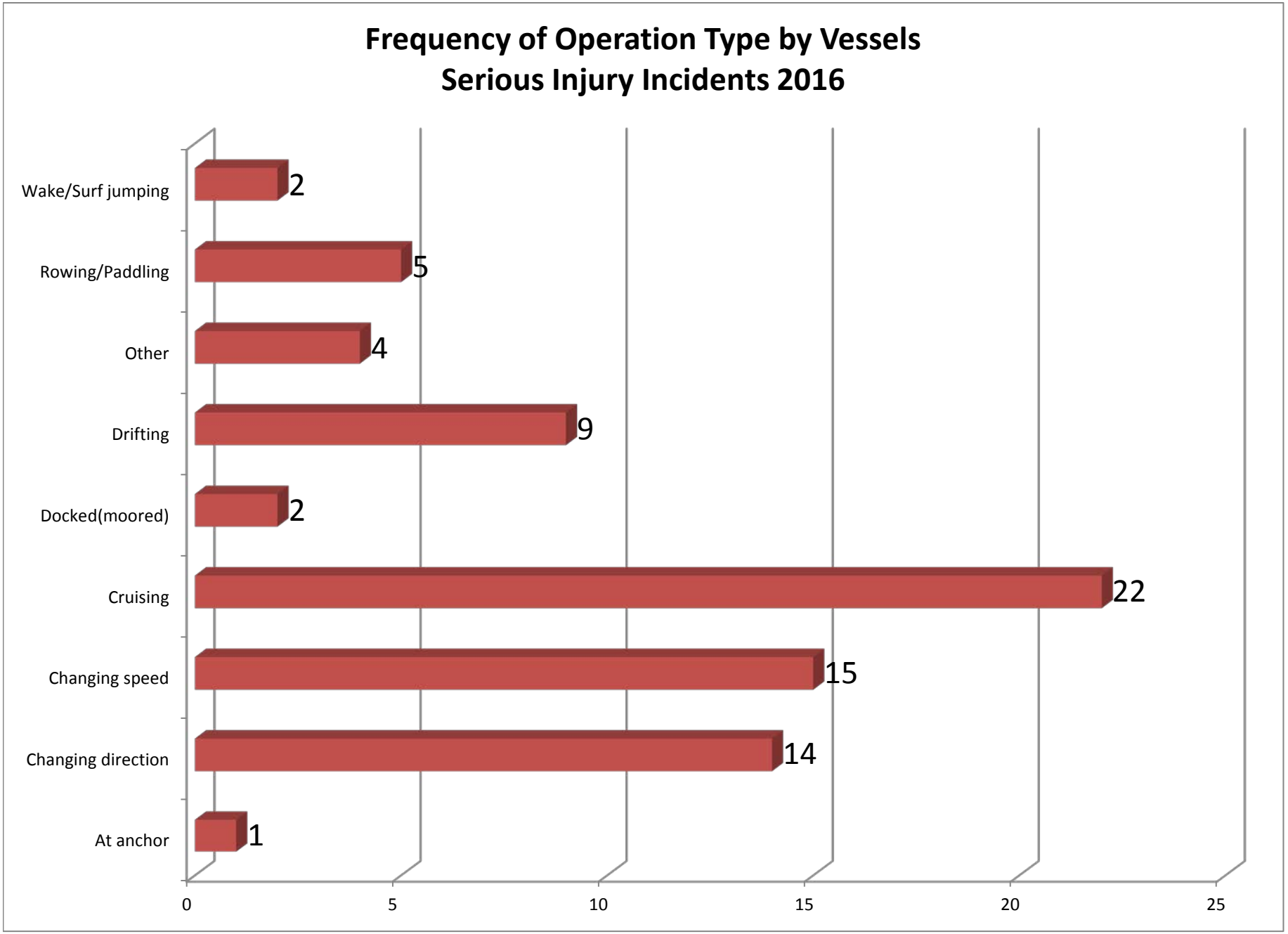

Number of Operators by Age Groups
Serious Injury Incidents 2016
Over 65
61 through 65
56 through 60
51 through 55
46 through 50
41 through 45
36 through 40
31 through 35
26 through 30
21 through 25
16 through 20
12 through 15
Less Than 12
6
3
3
5
11
3
5
4
6
6
3
2
0
0
2
4
6
8
10
12

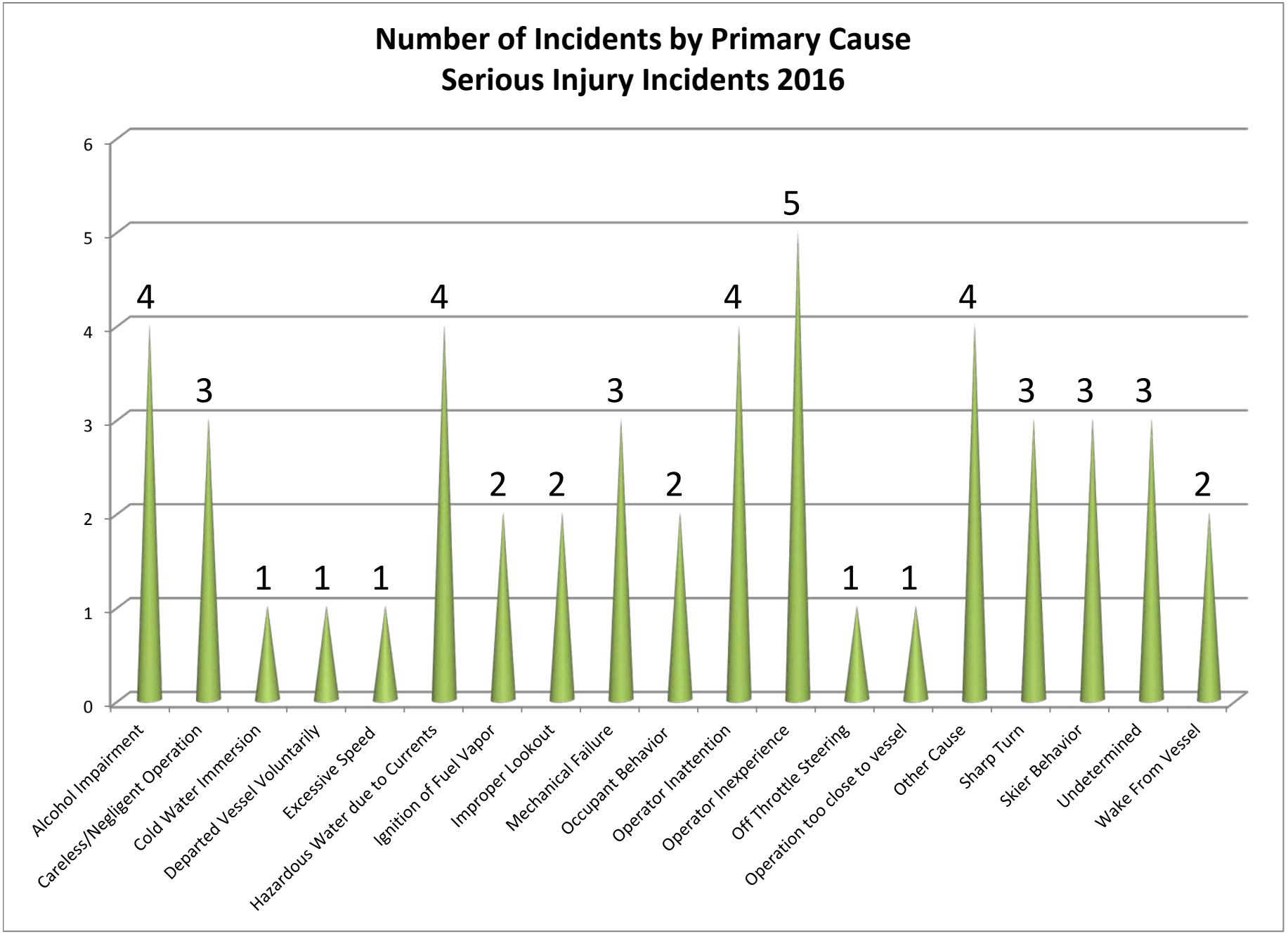

Number of Vessels by Length Category
Serious Injury Incidents 2016
Over 65'
0%
Unknown Length
8%
40' to 65'
2%
Under 16'
33%
26' to 40'
0%
16' to 26'
57%

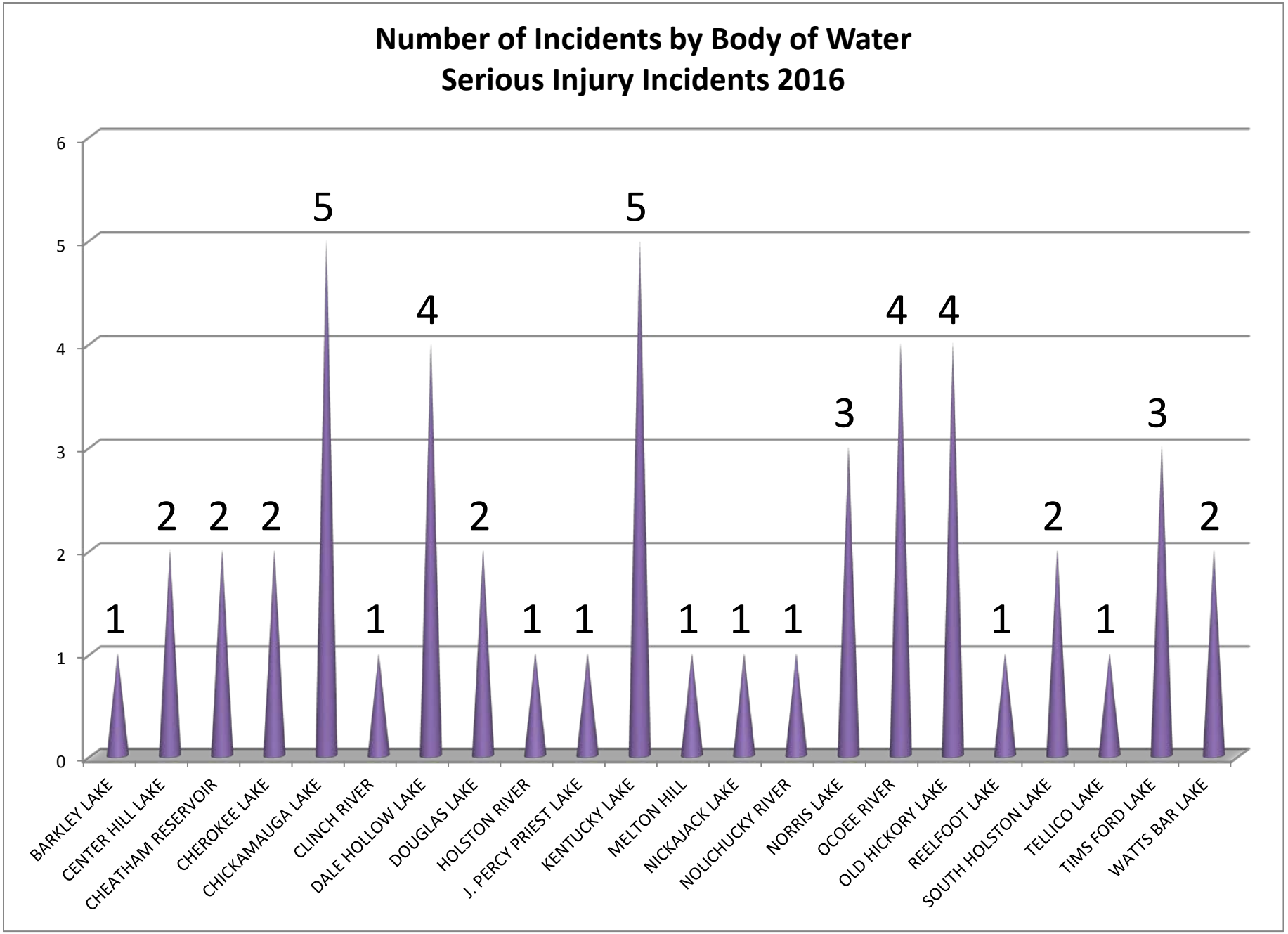

Number of Vessels by Vessel Type
Serious Injury Incidents 2016
30
25
20
15
10
5
0
2
1
3
27
2
16
6
2
Cabin Motorboat
Houseboat
Kayak
Open Motorboat
Other
Personal Watercraft
Pontoon Boat
Raft

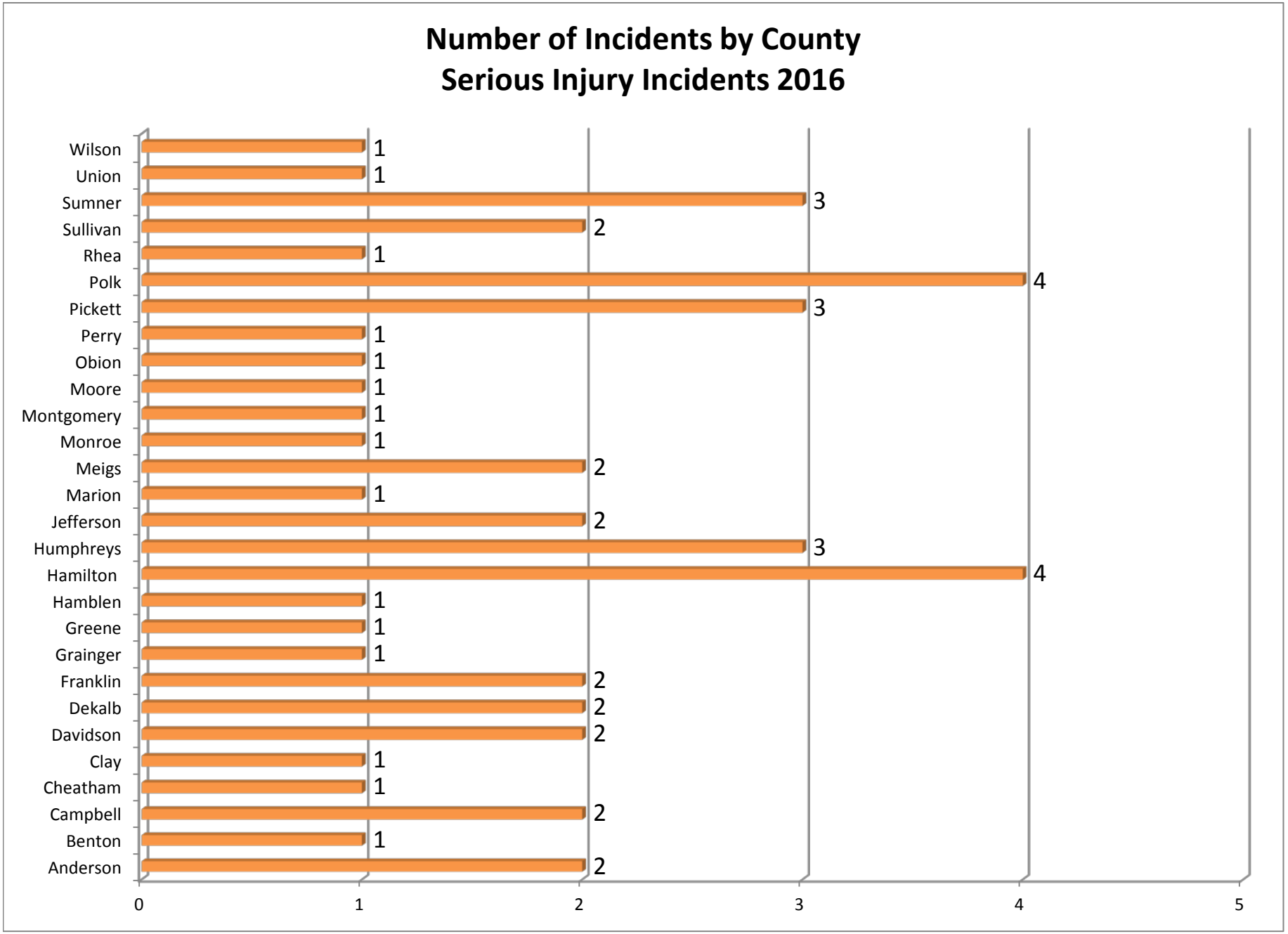

Number of Vessels by Type of Incident
Serious Injury Incidents 2016
Unknown/undetermined
Struck underwater object
Struck by skeg/prop(person)
Struck by boat(person)
Skier hit object
Sinking
Occupant impacts vessel
Grounding
Flooding/Swamping
Fire/Explosion(fuel)
Falls Overboard
Fall In Boat
Ejected from vessel
Departed vessel voluntarily
Collision with Vessel
Collison with Floating Object/Person
Collision-fixed object
Capsizing
1
2
4
2
9
2
10
3
1
4
7
2
13
3
19
2
4
3
0
2
4
6
8
10
12
14
16
18
20

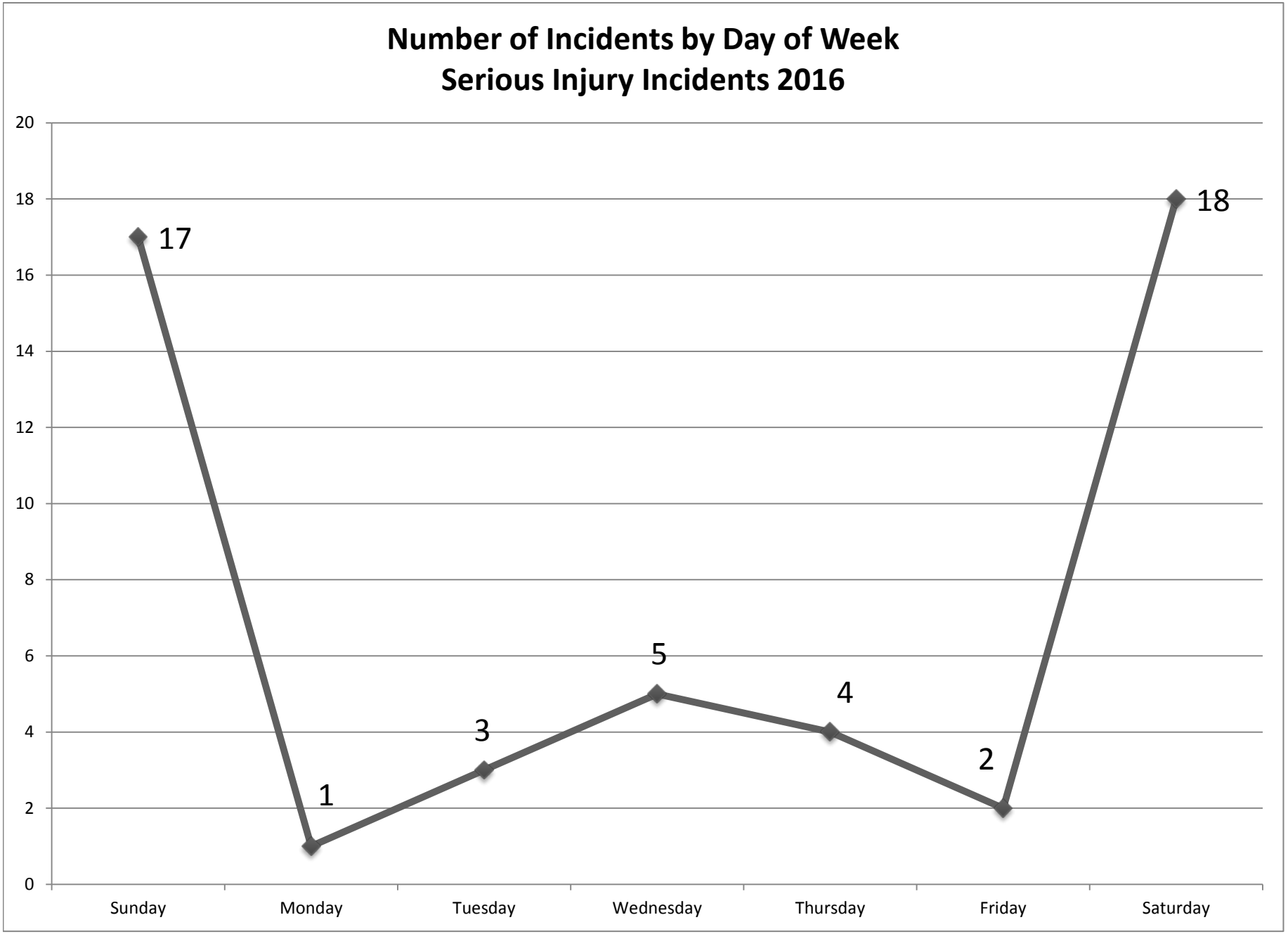

Number of Vessels by Activity During Incident
Serious Injury Incidents 2016
30
25
20
15
10
5
0
10
2
3
24
4
14
1
3
Fishing(recreational)
Making repairs
None
Recreational cruising
Recreational paddling
Skiing(skurfing, etc)
Starting engine
Tournament Fishing

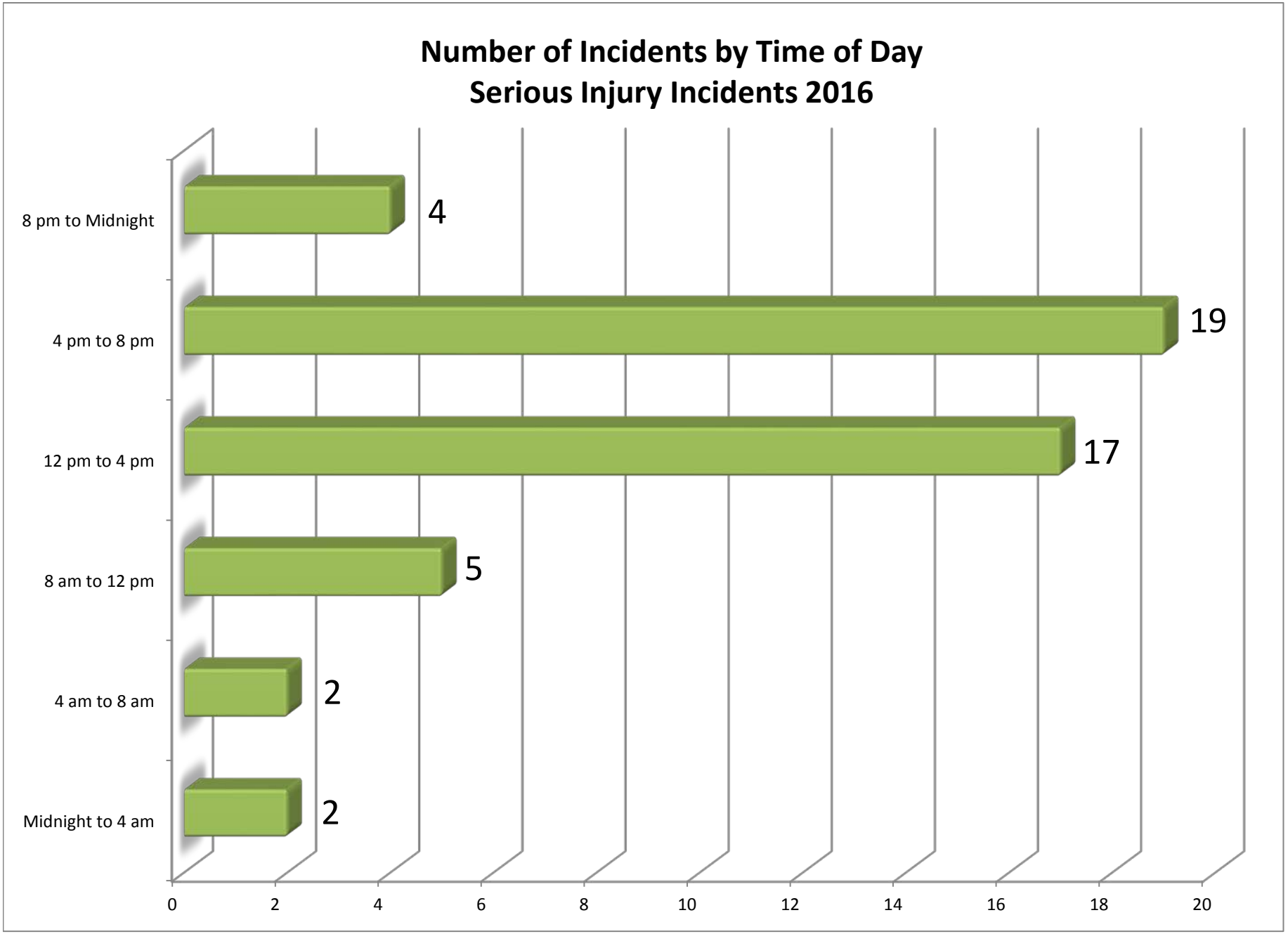

Frequency of Operation Type by Vessels
Serious Injury Incidents 2016
Wake/Surf jumping
2
Rowing/Paddling
5
Other
4
Drifting
9
Docked(moored)
2
Cruising
22
Changing speed
15
Changing direction
14
At anchor
1
0
5
10
15
20
25

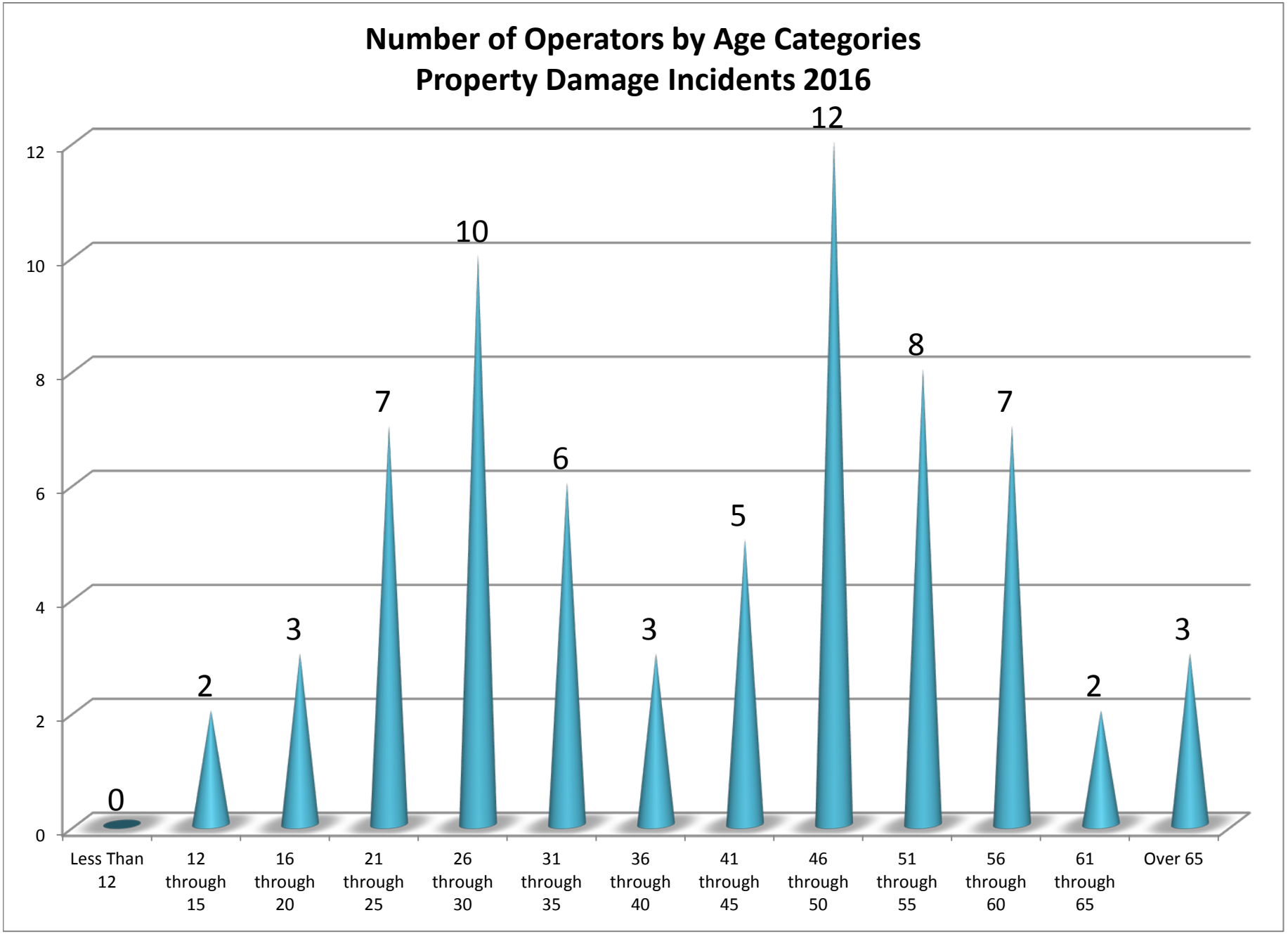

Number of Incidents by Primary Cause
Serious Injury Incidents 2016
0
1
2
3
4
5
6
4
3
1
1
1
4
2
2
3
2
4
5
1
1
4
3
3
3
2
Alcohol Impairment
Careless/Negligent Operation
Cold Water Immersion
Departed Vessel Voluntarily
Excessive Speed
Hazardous Water due to Currents
Ignition of Fuel Vapor
Improper Lookout
Mechanical Failure
Occupant Behavior
Operator Inattention
Operator Inexperience
Off Throttle Steering
Operation too close to vessel
Other Cause
Sharp Turn
Skier Behavior
Undetermined
Wake From Vessel

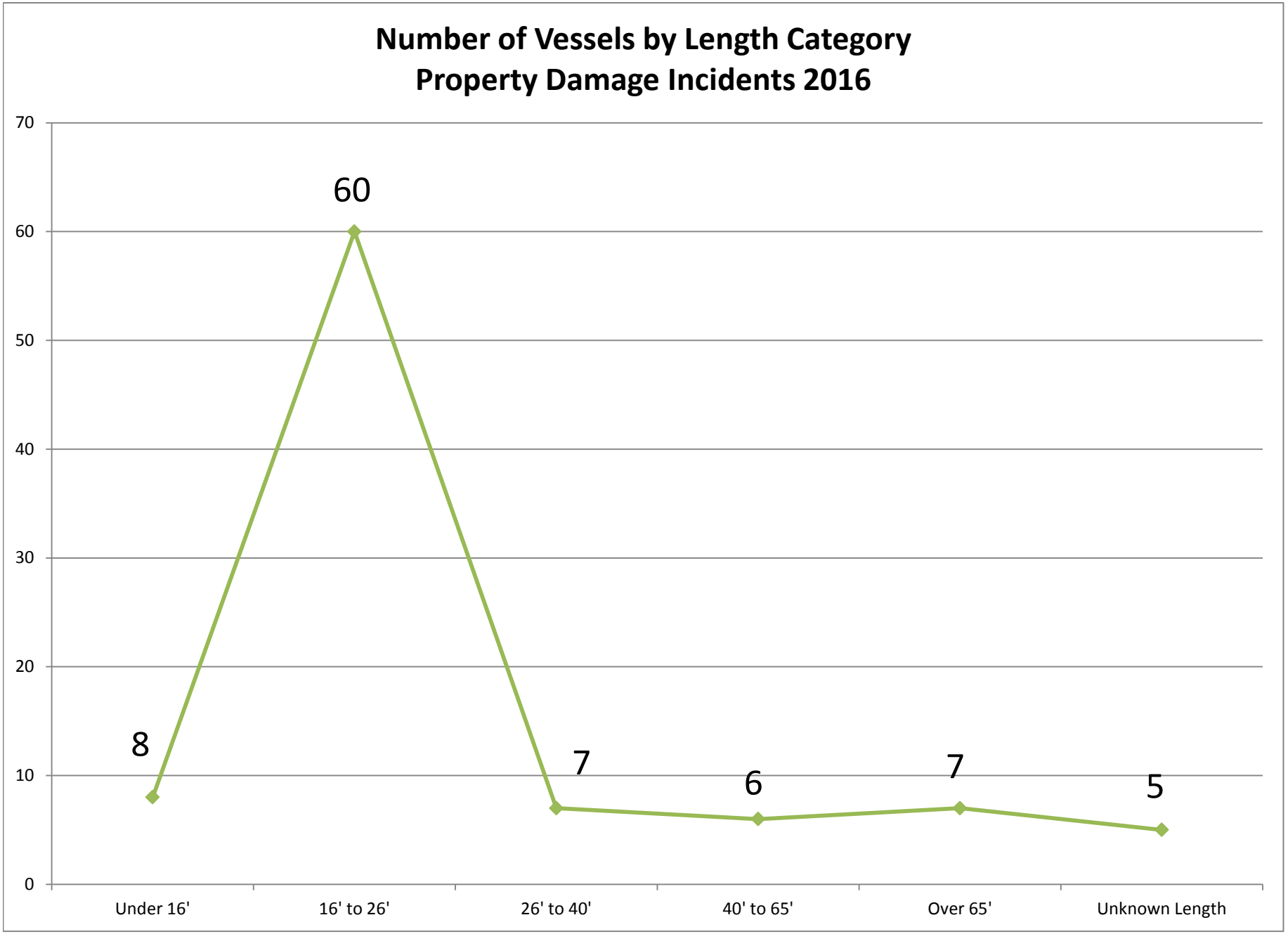

Number of Incidents by Body of Water
Serious Injury Incidents 2016
0
1
2
3
4
5
6
1
2
2
2
5
1
4
2
1
1
5
1
1
1
3
4
4
1
2
1
3
2
BARKLEY LAKE
CENTER HILL LAKE
CHEATHAM RESERVOIR
CHEROKEE LAKE
CHICKAMAUGA LAKE
CLINCH RIVER
DALE HOLLOW LAKE
DOUGLAS LAKE
HOLSTON RIVER
J. PERCY PRIEST LAKE
KENTUCKY LAKE
MELTON HILL
NICKAJACK LAKE
NOLICHUCKY RIVER
NORRIS LAKE
OCOEE RIVER
OLD HICKORY LAKE
REELFOOT LAKE
SOUTH HOLSTON LAKE
TELLICO LAKE
TIMS FORD LAKE
WATTS BAR LAKE

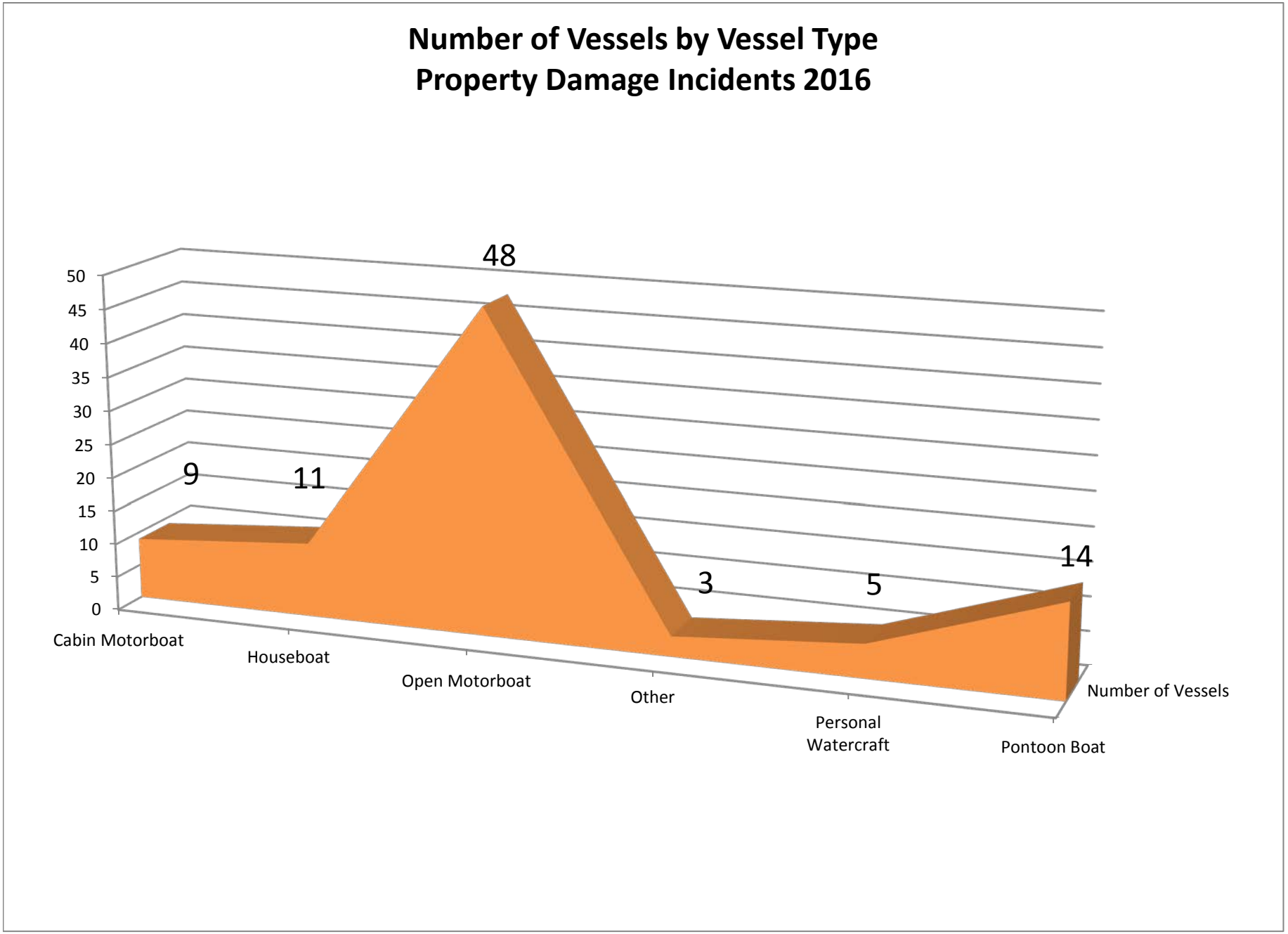

Number of Incidents by County
Serious Injury Incidents 2016
Wilson 1
Union 1
Sumner 3
Sullivan 2
Rhea 1
Polk 4
Pickett 3
Perry 1
Obion 1
Moore 1
Montgomery 1
Monroe 1
Meigs 2
Marion 1
Jefferson 2
Humphreys 3
Hamilton 4
Hamblen 1
Greene 1
Grainger 1
Franklin 2
Dekalb 2
Davidson 2
Clay 1
Cheatham 1
Campbell 2
Benton 1
Anderson 2
0
1
2
3
4
5

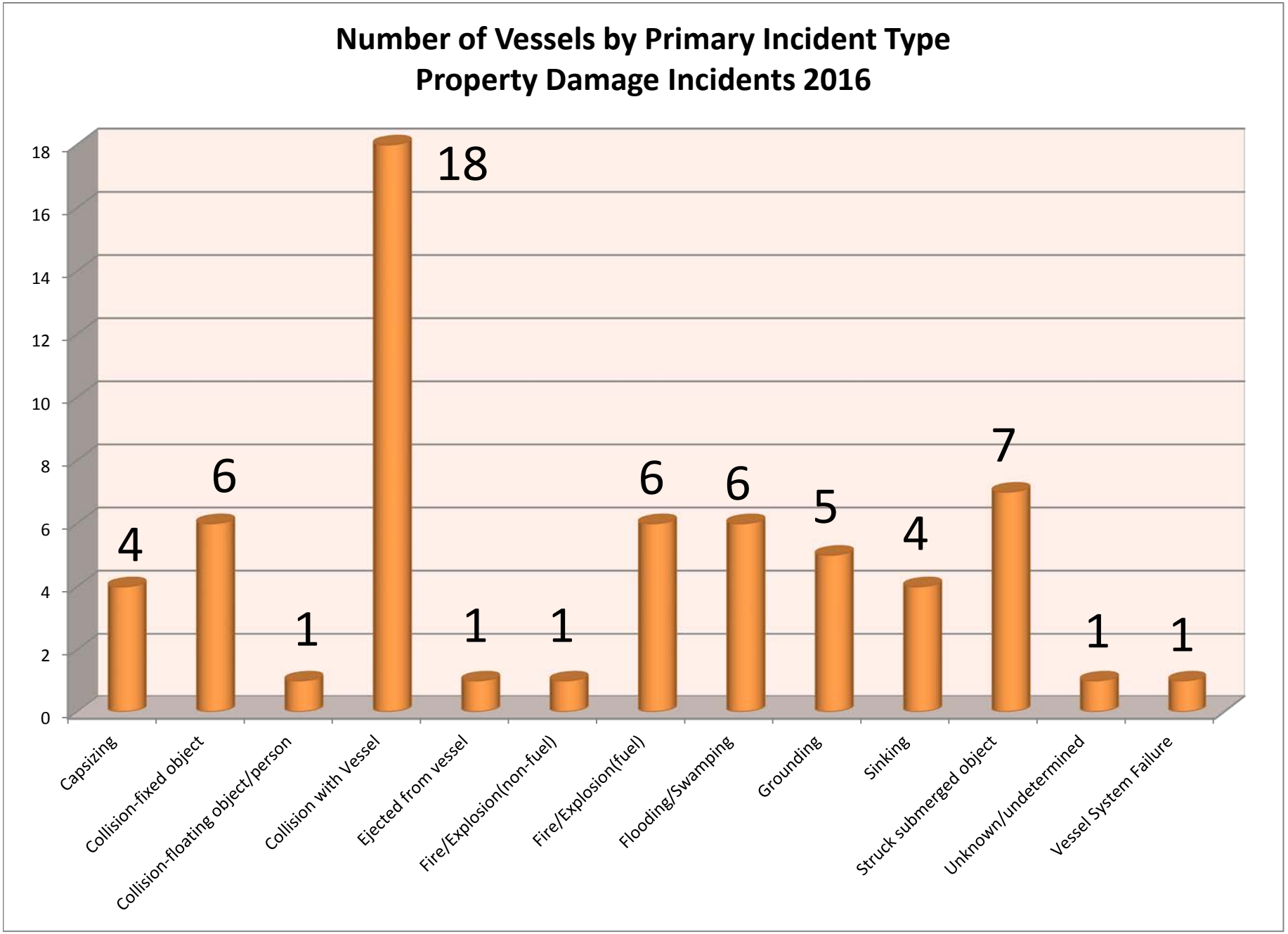

Number of Incidents by Day of Week
Serious Injury Incidents 2016
20
18
16
14
12
10
8
6
4
2
0
17
1
3
5
4
2
18
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

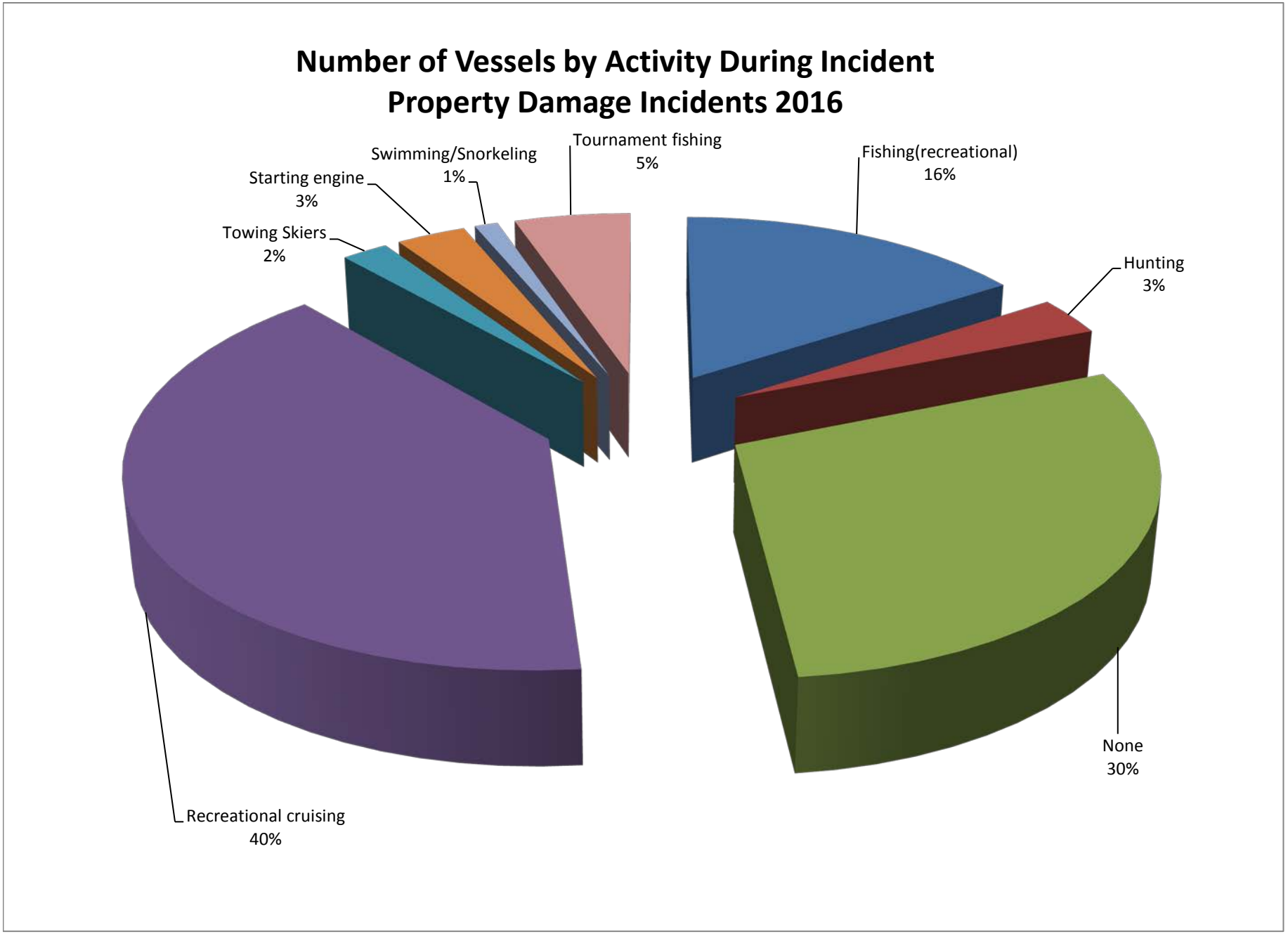

Number of Incidents by Time of Day
Serious Injury Incidents 2016
8 pm to Midnight
4 pm to 8 pm
12 pm to 4 pm
8 am to 12 pm
4 am to 8 am
Midnight to 4 am
4
19
17
5
2
2
0
2
4
6
8
10
12
14
16
18
20

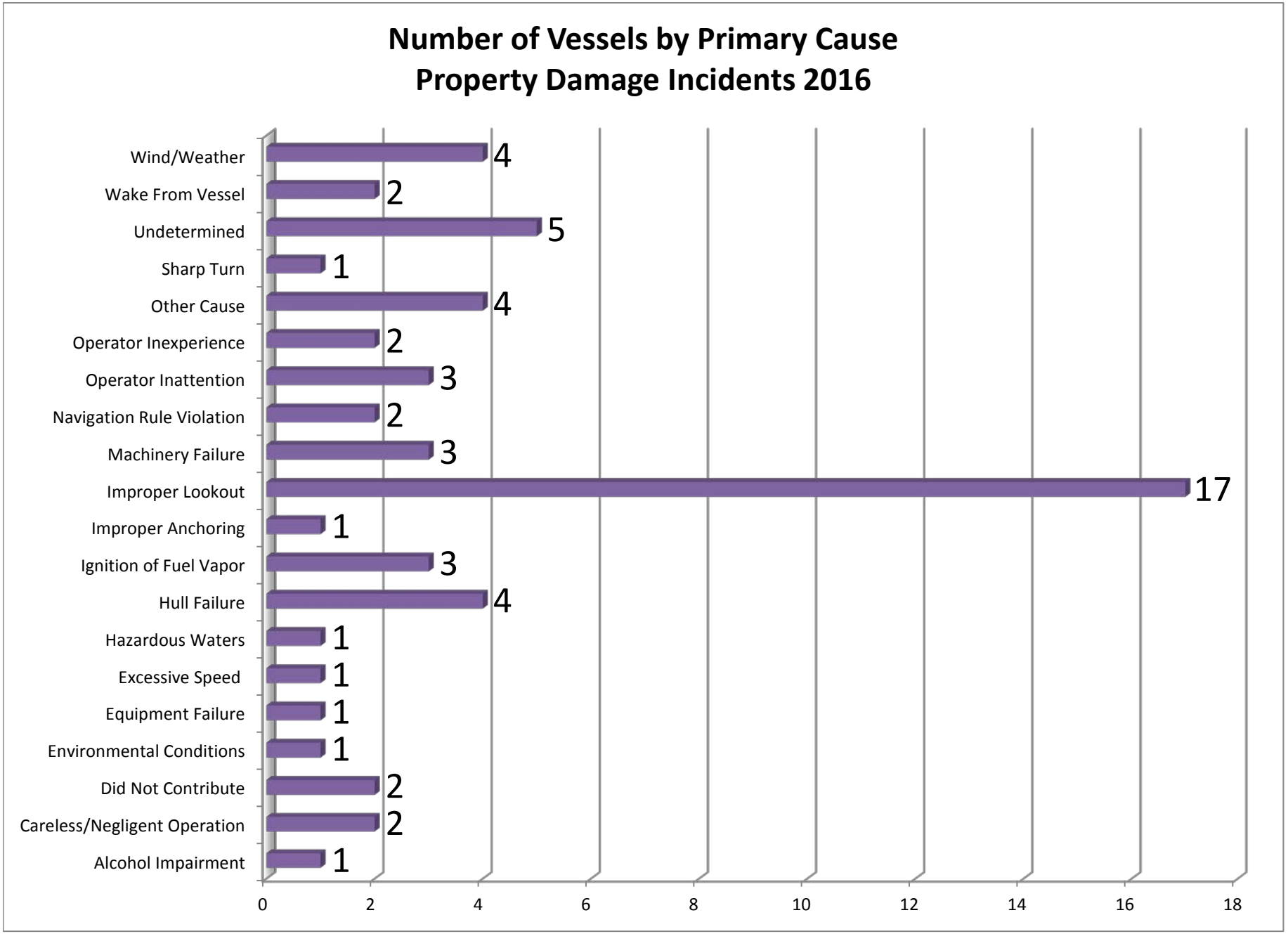

Number of Operators by Age Categories
Property Damage Incidents 2016
12
10
8
6
4
2
0
0
2
3
7
10
6
3
5
12
8
7
2
3
Less Than 12
12 through 15
16 through 20
21 through 25
26 through 30
31 through 35
36 through 40
41 through 45
46 through 50
51 through 55
56 through 60
61 through 65
Over 65

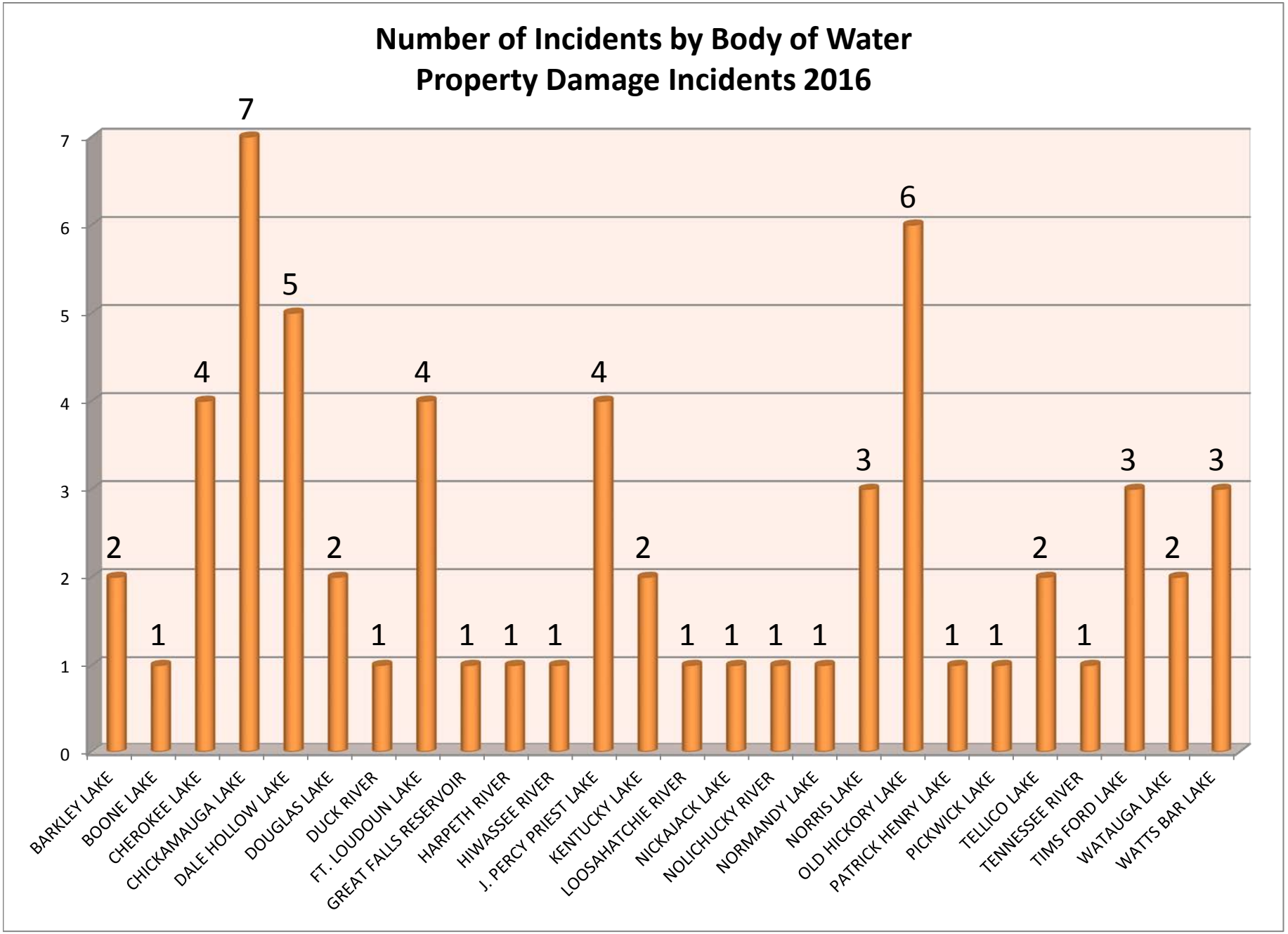

Number of Vessels by Length Category
Property Damage Incidents 2016
70
60
50
40
30
20
10
0
60
8
7
6
7
5
Under 16'
16' to 26'
26' to 40'
40' to 65'
Over 65'
Unknown Length

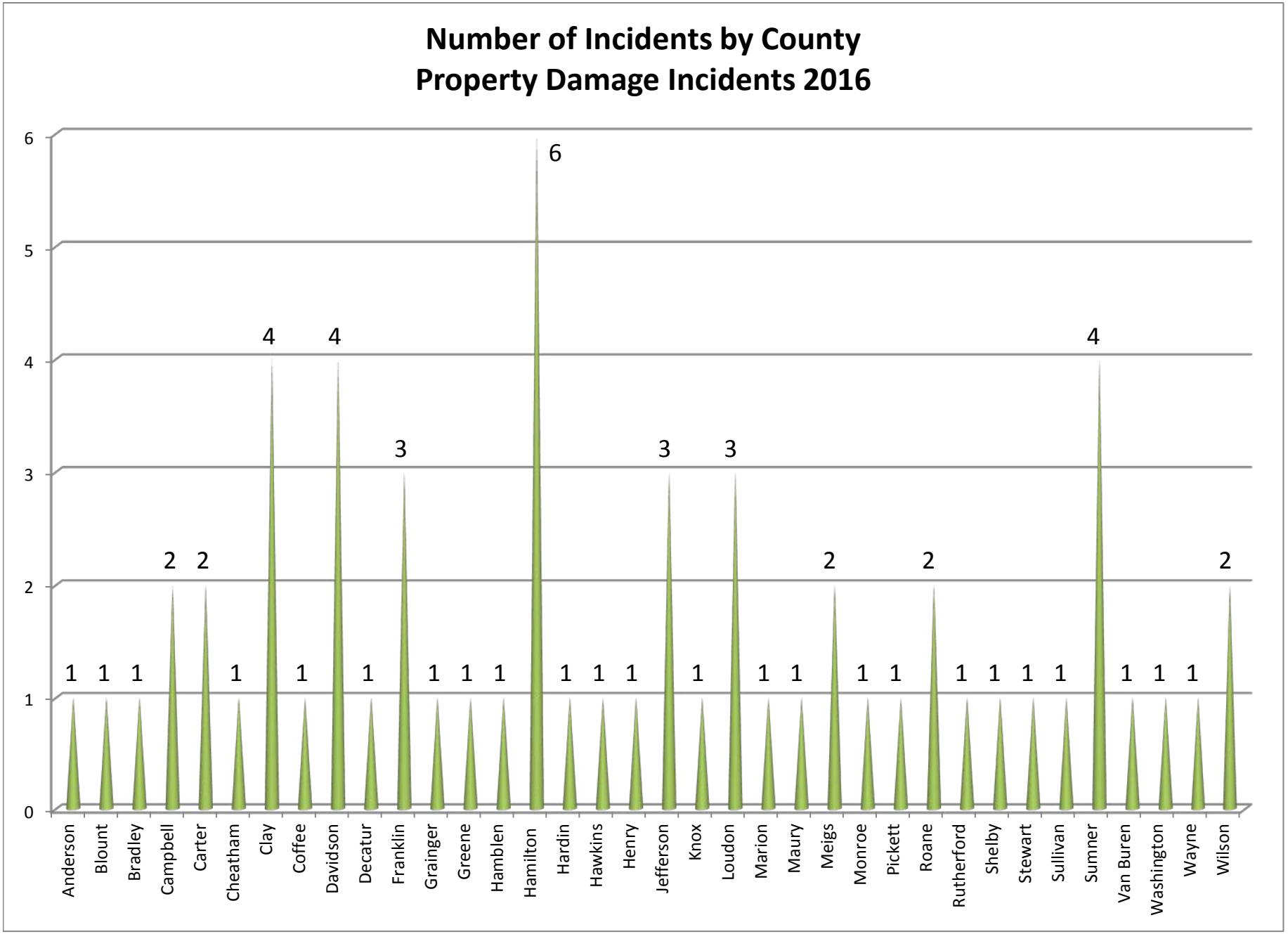

Number of Vessels by Vessel Type
Property Damage Incidents 2016
50
45
40
35
30
25
20
15
10
5
0
9
11
48
3
5
14
Cabin Motorboat
Houseboat
Open Motorboat
Other
Personal Watercraft
Pontoon Boat
Number of Vessels

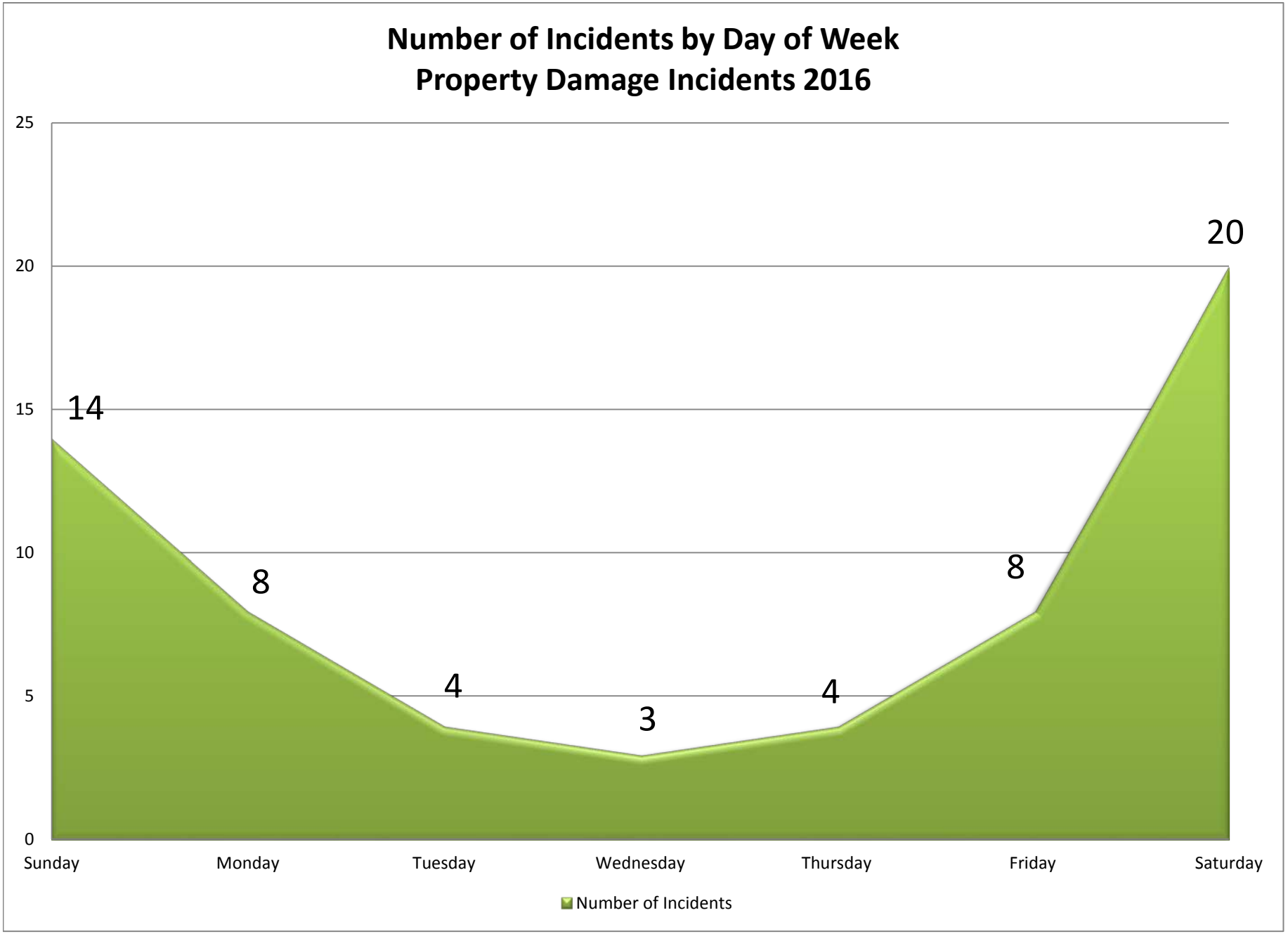

Number of Vessels by Primary Incident Type
Property Damage Incidents 2016
18
16
14
12
10
8
6
4
2
0
4
6
1
18
1
1
6
6
5
4
7
1
1
Capsizing
Collision-fixed object
Collision-floating object/person
Collision with Vessel
Ejected from vessel
Fire/Explosion(non-fuel)
Fire/Explosion(fuel)
Flooding/Swamping
Grounding
Sinking
Struck submerged object
Unknown/undetermined
Vessel System Failure

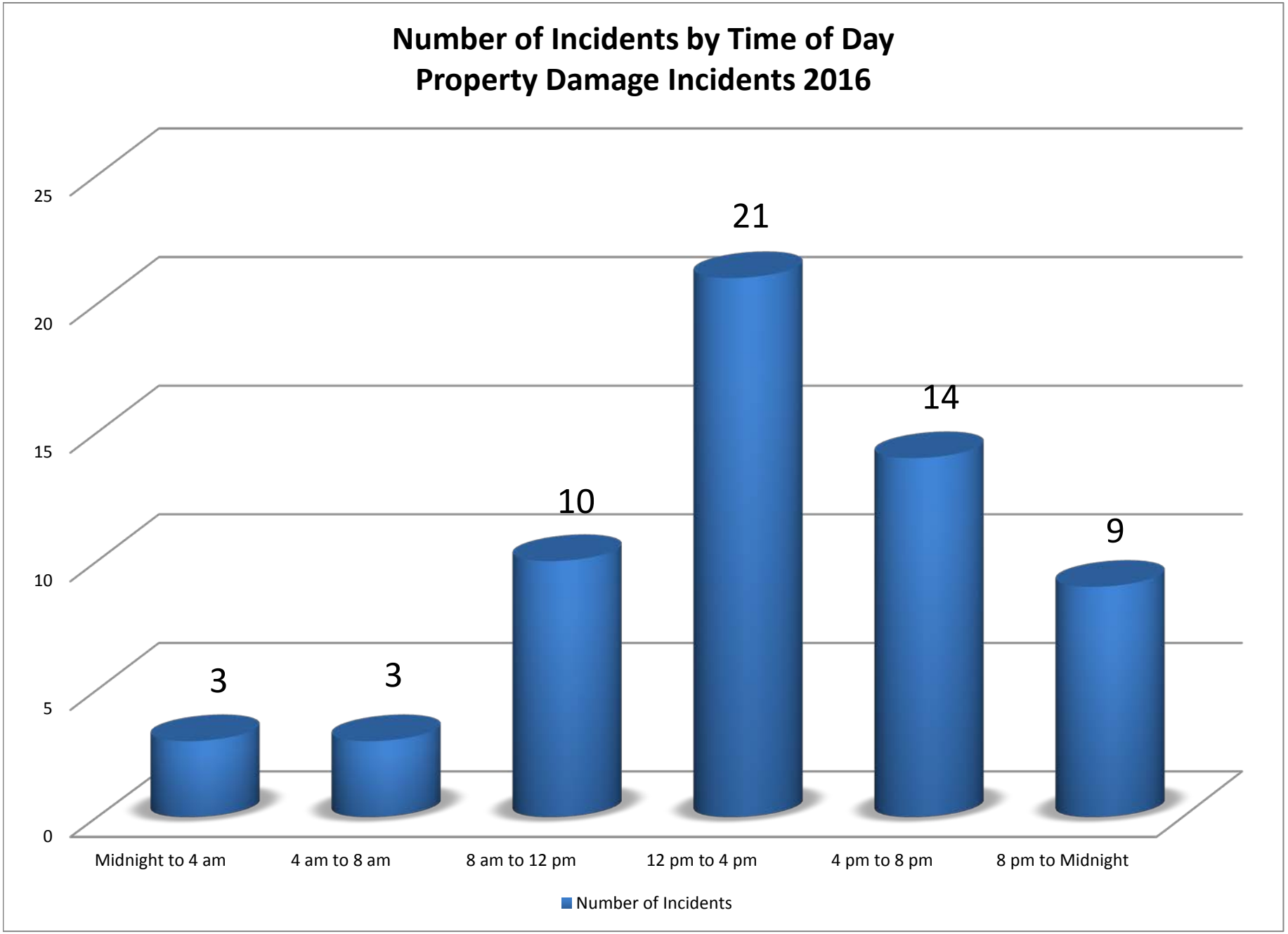

Number of Vessels by Activity During Incident
Property Damage Incidents 2016
Tournament fishing
5%
Fishing(recreational)
16%
Swimming/Snorkeling
1%
Starting engine
3%
Towing Skiers
2%
Hunting
3%
None
30%
Recreational cruising
40%

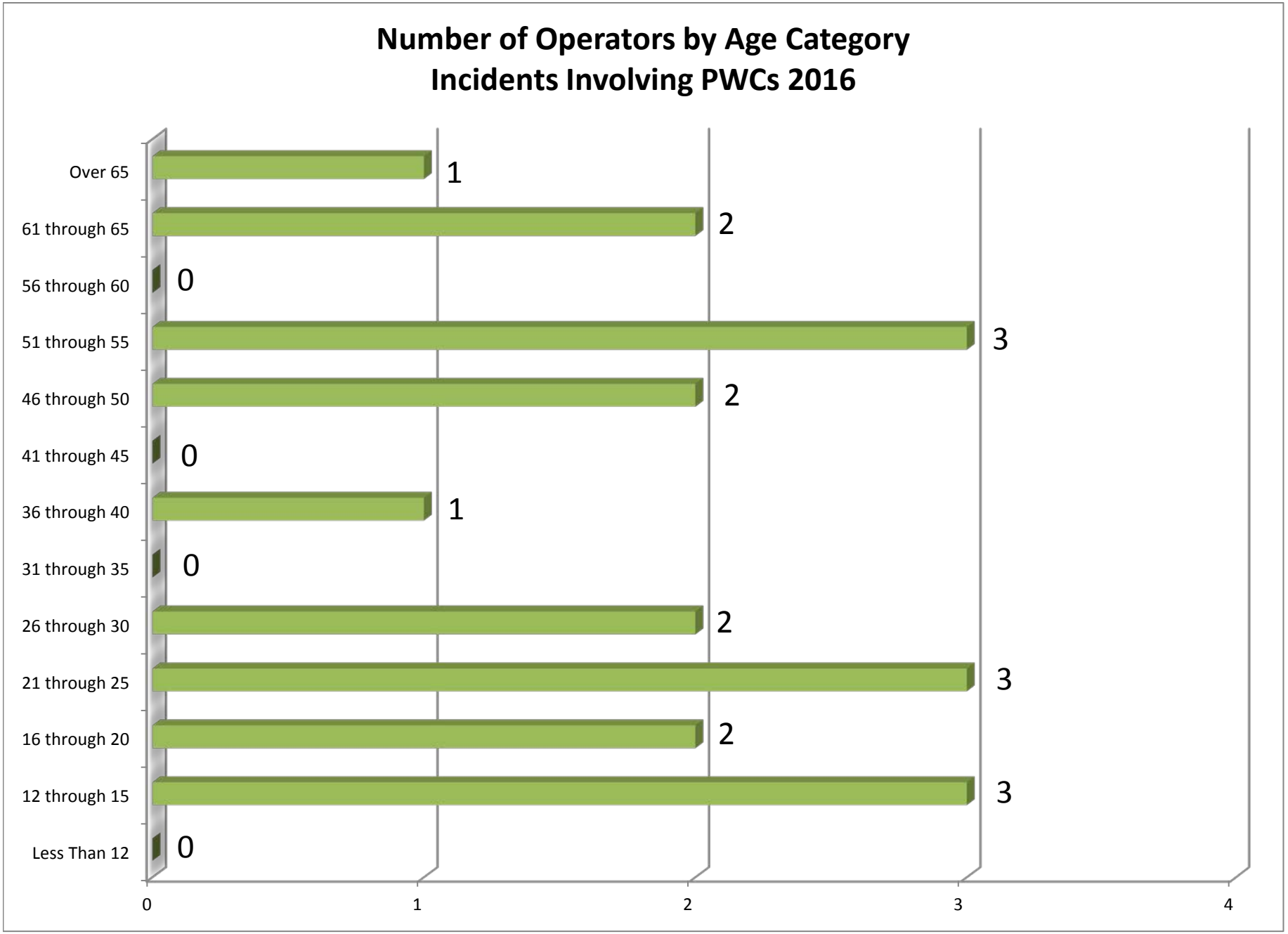

Number of Vessels by Primary Cause
Property Damage Incidents 2016
Wind/Weather
Wake From Vessel
Undetermined
Sharp Turn
Other Cause
Operator Inexperience
Operator Inattention
Navigation Rule Violation
Machinery Failure
Improper Lookout
Improper Anchoring
Ignition of Fuel Vapor
Hull Failure
Hazardous Waters
Excessive Speed
Equipment Failure
Environmental Conditions
Did Not Contribute
Careless/Negligent Operation
Alcohol Impairment
4
2
5
1
4
2
3
2
3
17
1
3
4
1
1
1
1
2
2
1
0
2
4
6
8
10
12
14
16
18

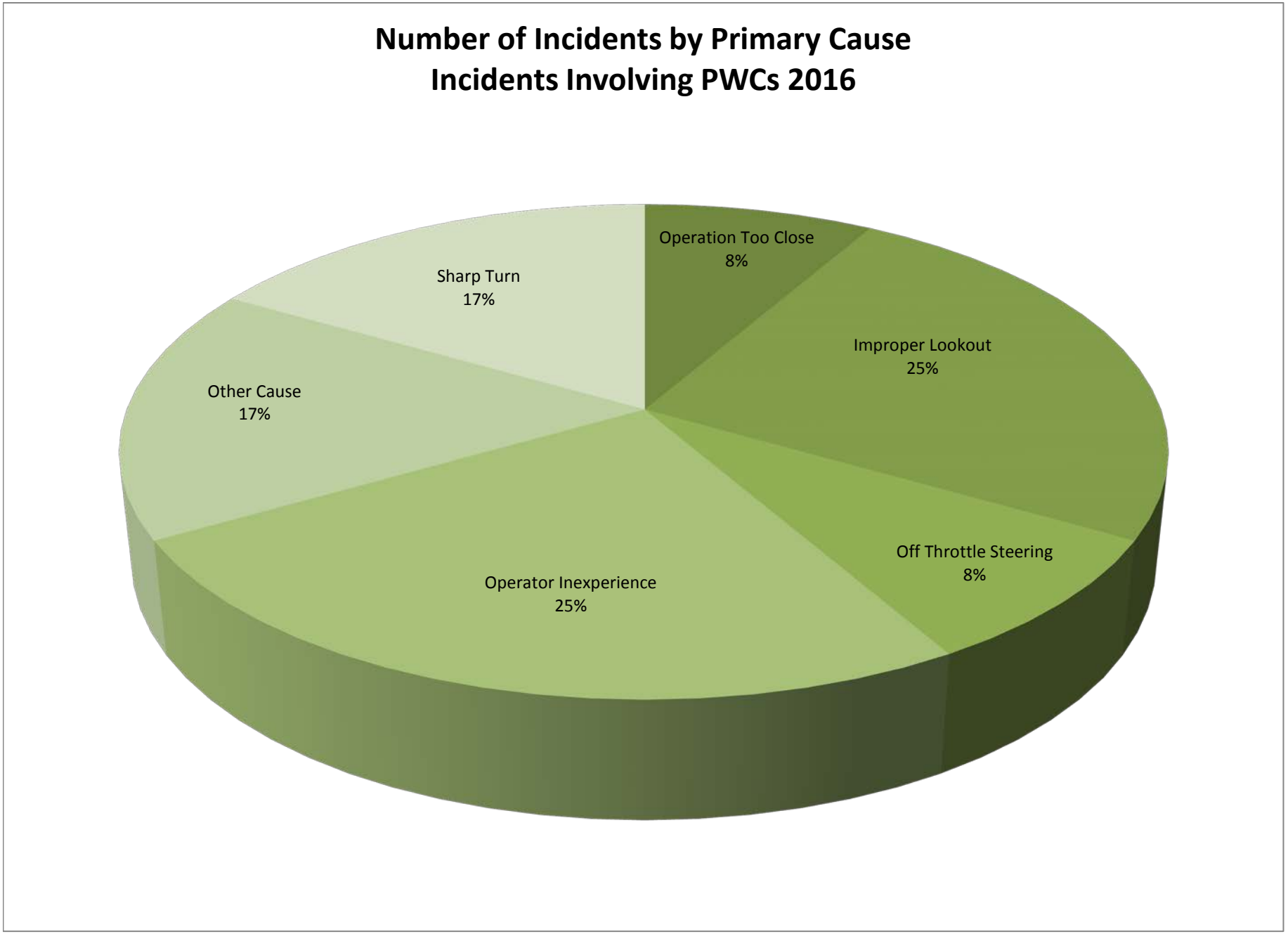

Number of Incidents by Body of Water
Property Damage Incidents 2016
0
1
2
3
4
5
6
7
2
1
4
7
5
2
1
4
1
1
1
4
2
1
1
1
1
3
6
1
1
2
1
3
2
3
BARKLEY LAKE
BOONE LAKE
CHEROKEE LAKE
CHICKAMAUGA LAKE
DALE HOLLOW LAKE
DOUGLAS LAKE
DUCK RIVER
FT. LOUDOUN LAKE
GREAT FALLS RESERVOIR
HARPETH RIVER
HIWASSEE RIVER
J. PERCY PRIEST LAKE
KENTUCKY LAKE
LOOSAHATCHIE RIVER
NICKAJACK LAKE
NOLICHUCKY RIVER
NORMANDY LAKE
NORRIS LAKE
OLD HICKORY LAKE
PATRICK HENRY LAKE
PICKWICK LAKE
TELLICO LAKE
TENNESSEE RIVER
TIMS FORD LAKE
WATAUGA LAKE
WATTS BAR LAKE

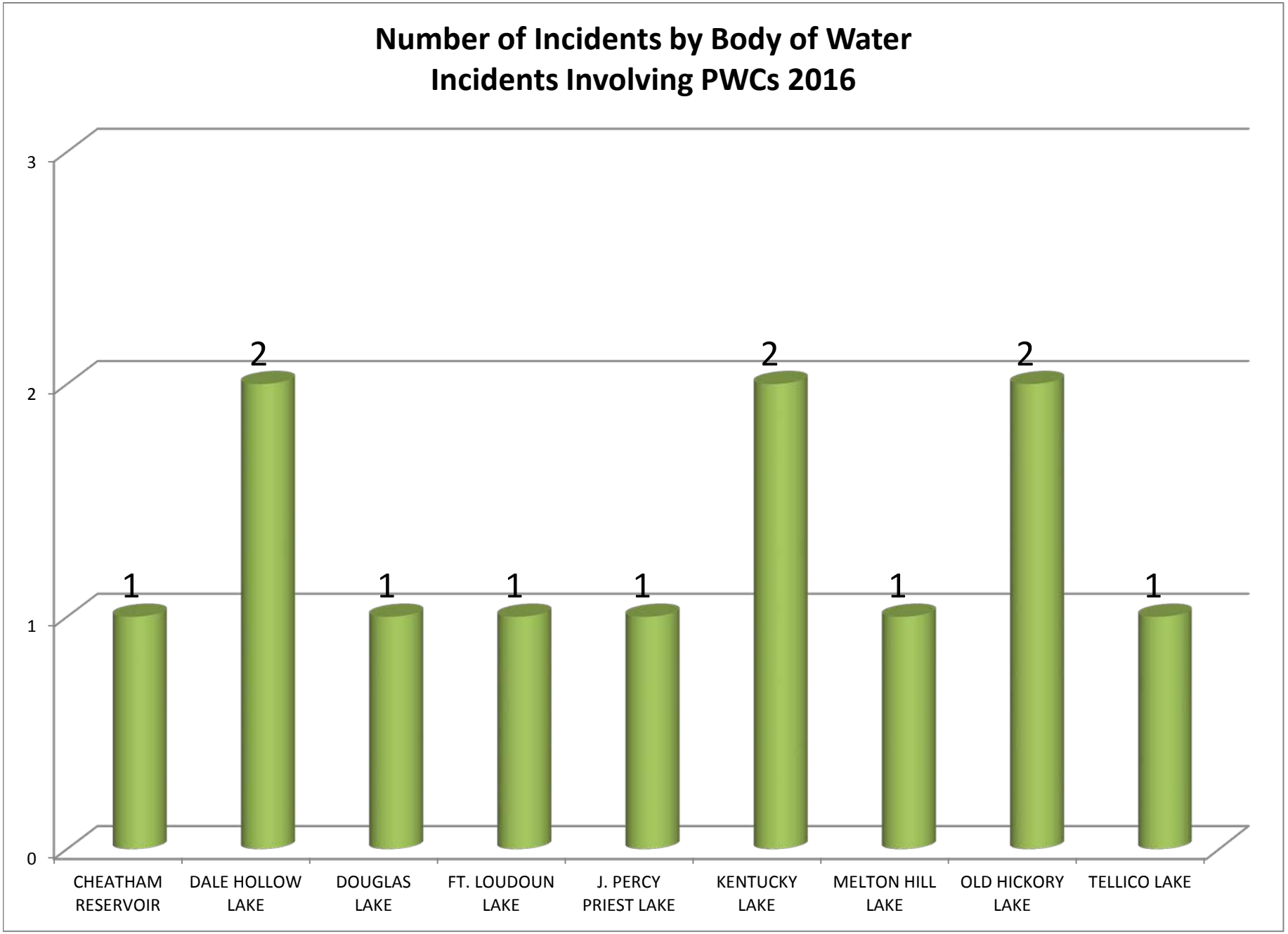

Number of Incidents by County
Property Damage Incidents 2016
0
1
2
3
4
5
6
Anderson 1
Blount 1
Bradley 1
Campbell 2
Carter 2
Cheatham 1
Clay 4
Coffee 1
Davidson 4
Decatur 1
Franklin 3
Grainger 1
Greene 1
Hamblen 1
Hamilton 6
Hardin 1
Hawkins 1
Henry 1
Jefferson 3
Knox 1
Loudon 3
Marion 1
Maury 1
Meigs 2
Monroe 1
Pickett 1
Roane 2
Rutherford 1
Shelby 1
Stewart 1
Sullivan 1
Sumner 4
Van Buren 1
Washington 1
Wayne 1
Wilson 2

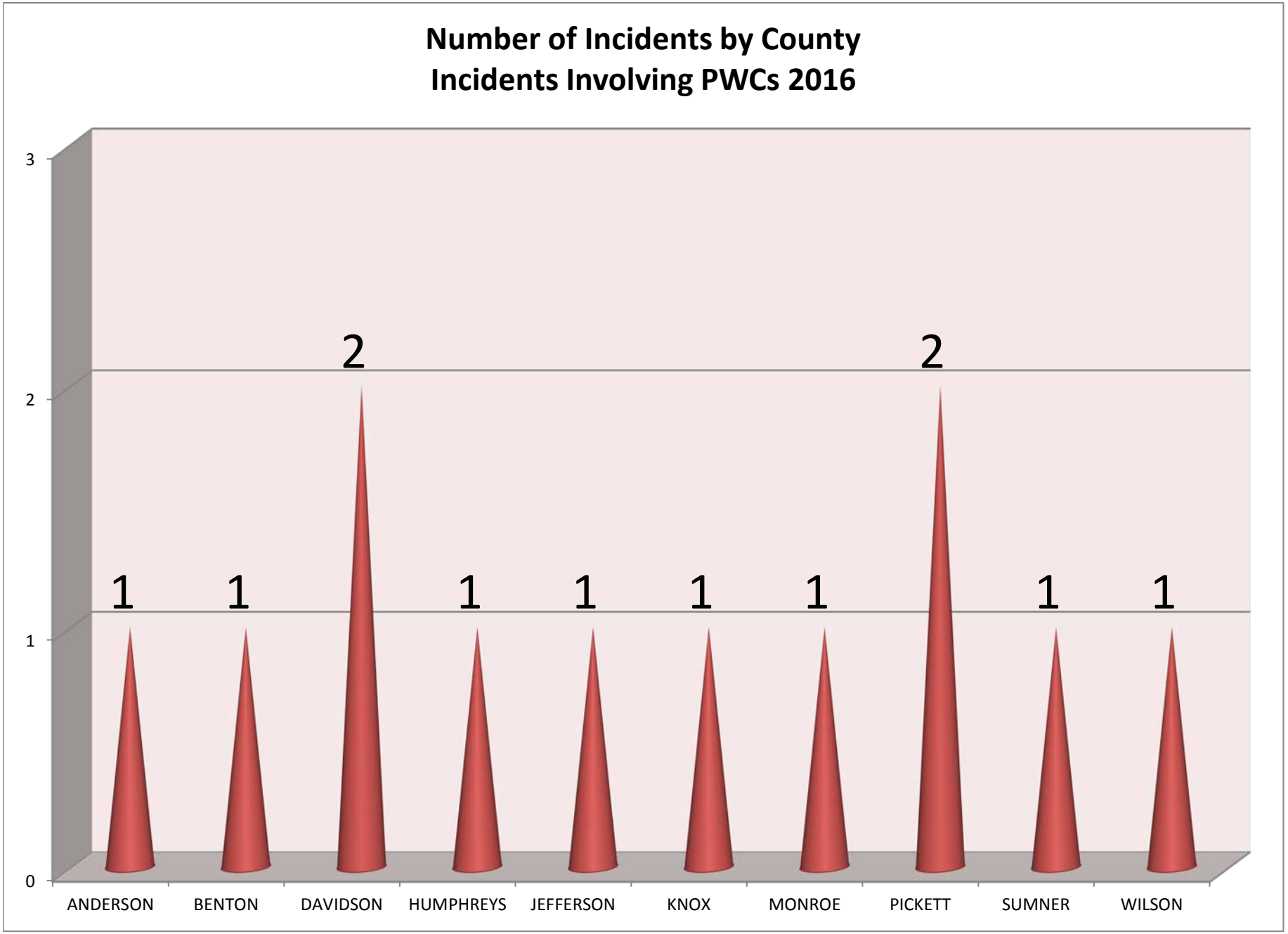

Number of Incidents by Day of Week
Property Damage Incidents 2016
25
20
15
10
5
0
14
8
4
3
4
8
20
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Number of Incidents

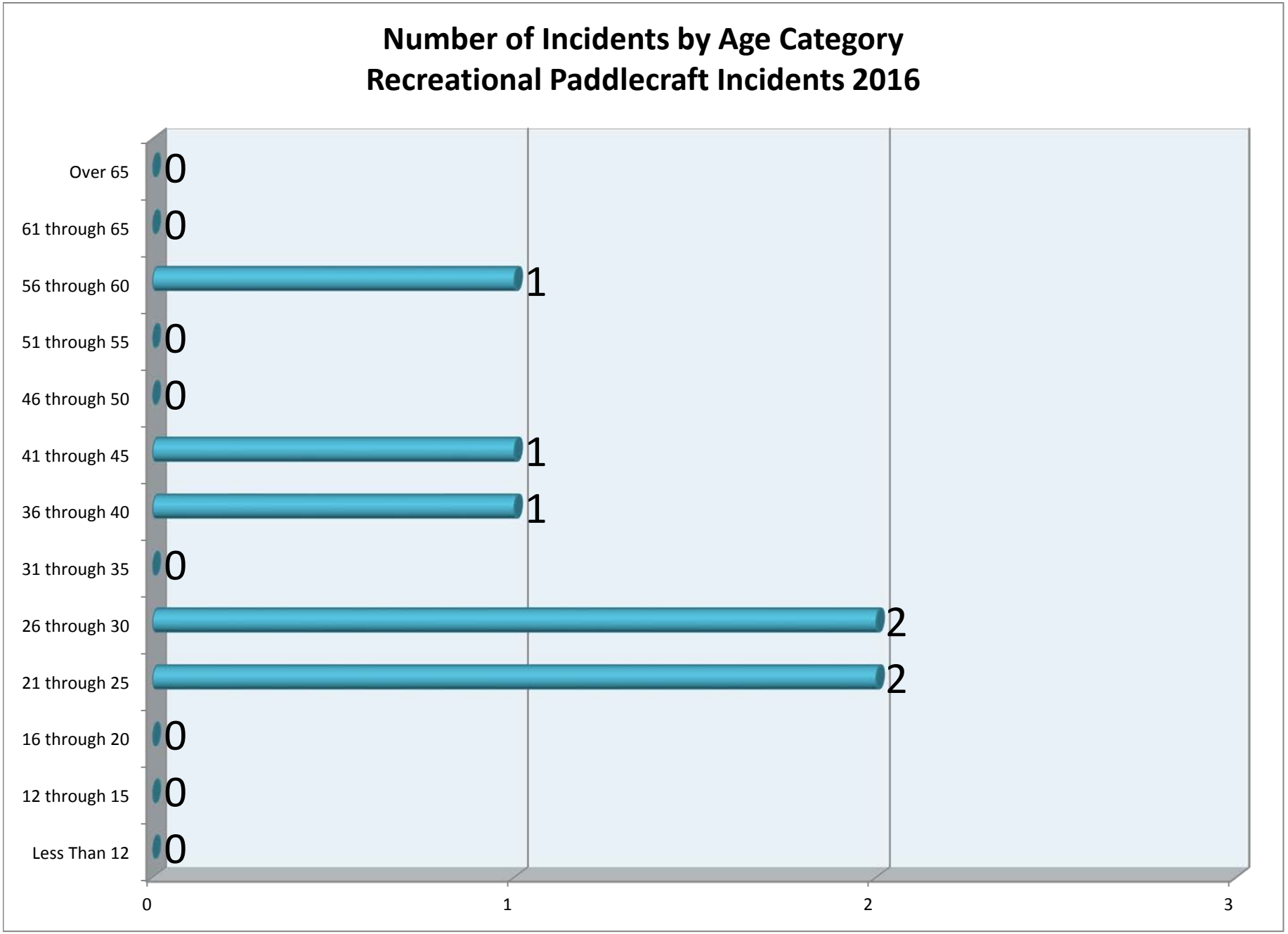

Number of Incidents by Time of Day
Property Damage Incidents 2016
25
20
15
10
5
0
3
3
10
21
14
9
Midnight to 4 am
4 am to 8 am
8 am to 12 pm
12 pm to 4 pm
4 pm to 8 pm
8 pm to Midnight
Number of Incidents

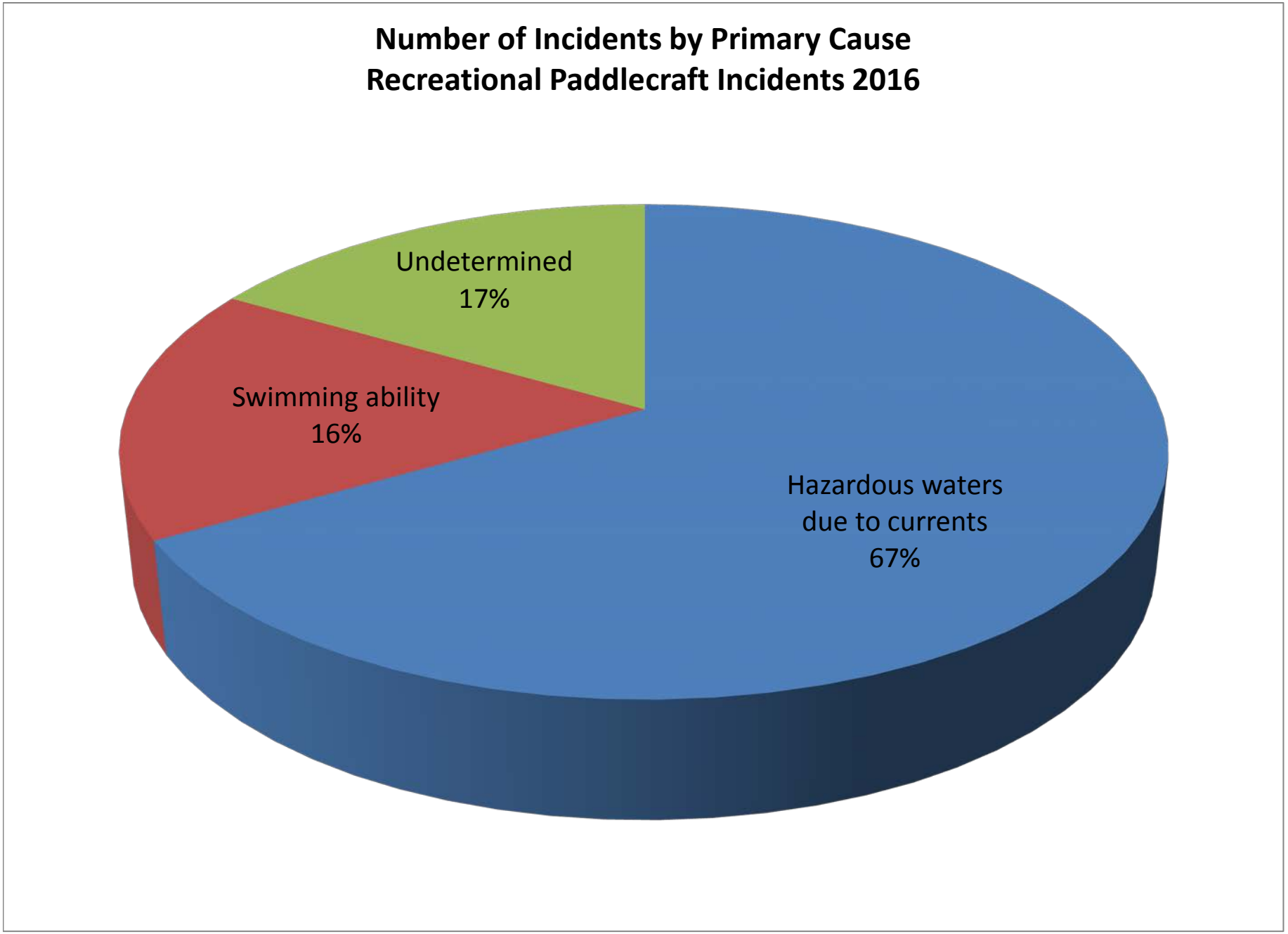

Number of Operators by Age Category
Incidents Involving PWCs 2016
Over 65
61 through 65
56 through 60
51 through 55
46 through 50
41 through 45
36 through 40
31 through 35
26 through 30
21 through 25
16 through 20
12 through 15
Less Than 12
1
2
0
3
2
0
1
0
2
3
2
3
0
0
1
2
3
4

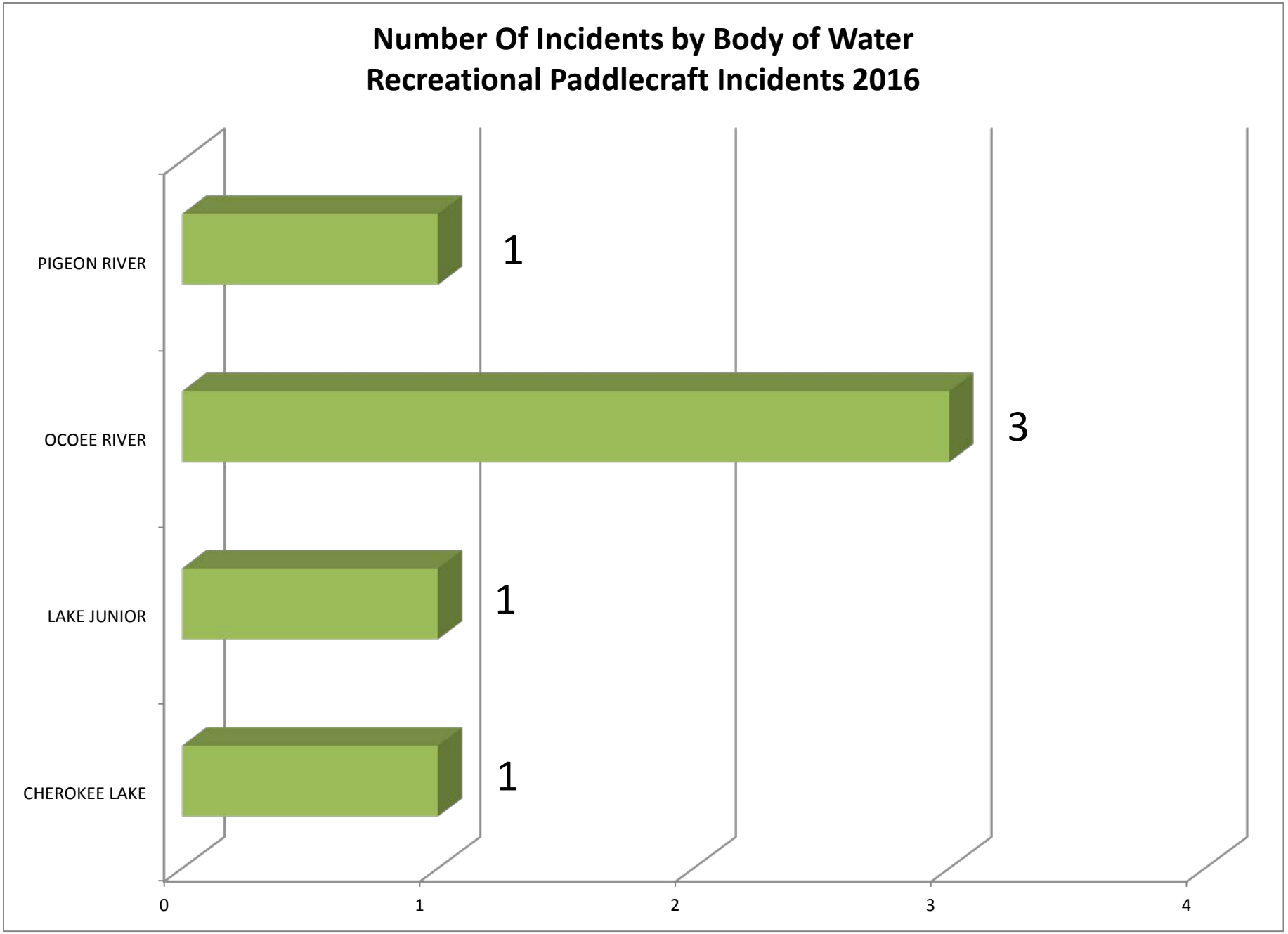

Number of Incidents by Primary Cause
Incidents Involving PWCs 2016
Operation Too Close
8%
Improper Lookout
25%
Off Throttle Steering
8%
Operator Inexperience
25%
Other Cause
17%
Sharp Turn
17%


Number of Incidents by Body of Water
Incidents Involving PWCs 2016
3
2
1
0
1
2
1
1
1
2
1
2
1
CHEATHAM RESERVOIR
DALE HOLLOW LAKE
DOUGLAS LAKE
FT. LOUDOUN LAKE
J. PERCY PRIEST LAKE
KENTUCKY LAKE
MELTON HILL LAKE
OLD HICKORY LAKE
TELLICO LAKE

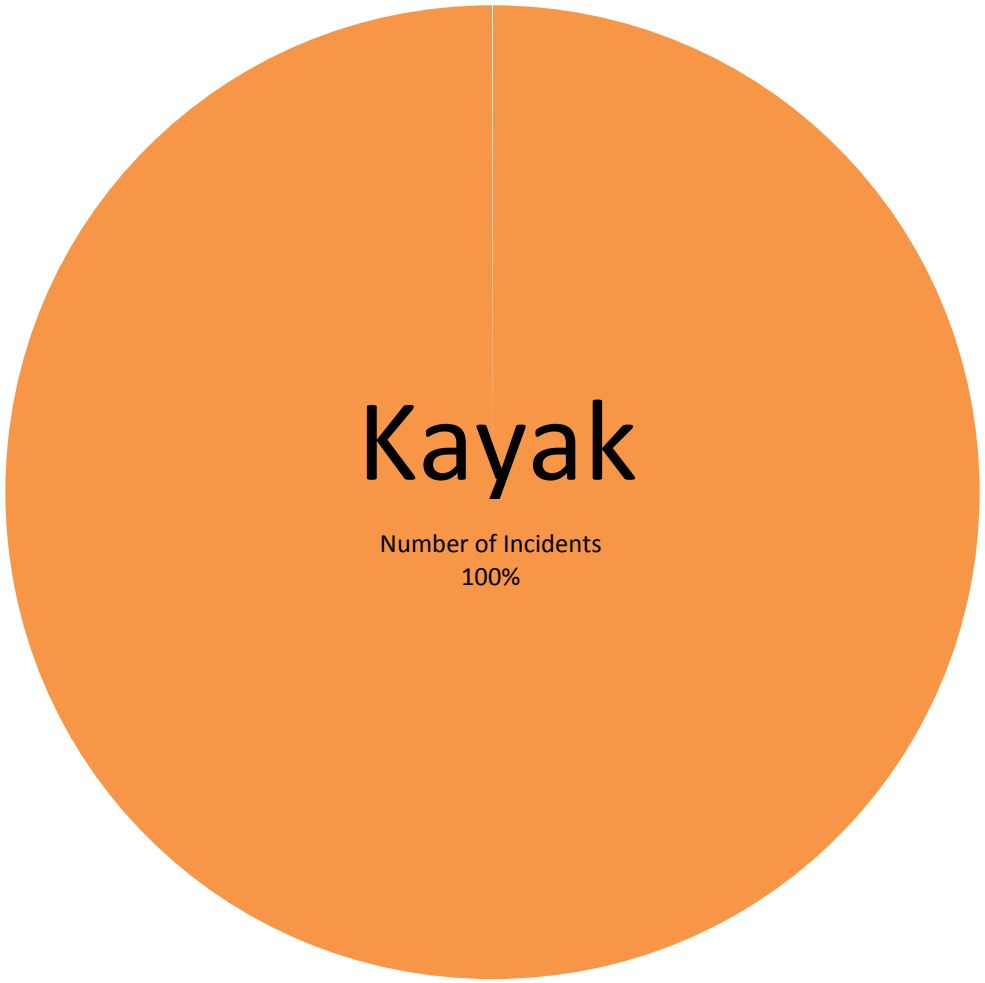

Number of Incidents by County
Incidents Involving PWCs 2016
3
2
1
0
1
1
2
1
1
1
1
2
1
1
ANDERSON
BENTON
DAVIDSON
HUMPHREYS
JEFFERSON
KNOX
MONROE
PICKETT
SUMNER
WILSON

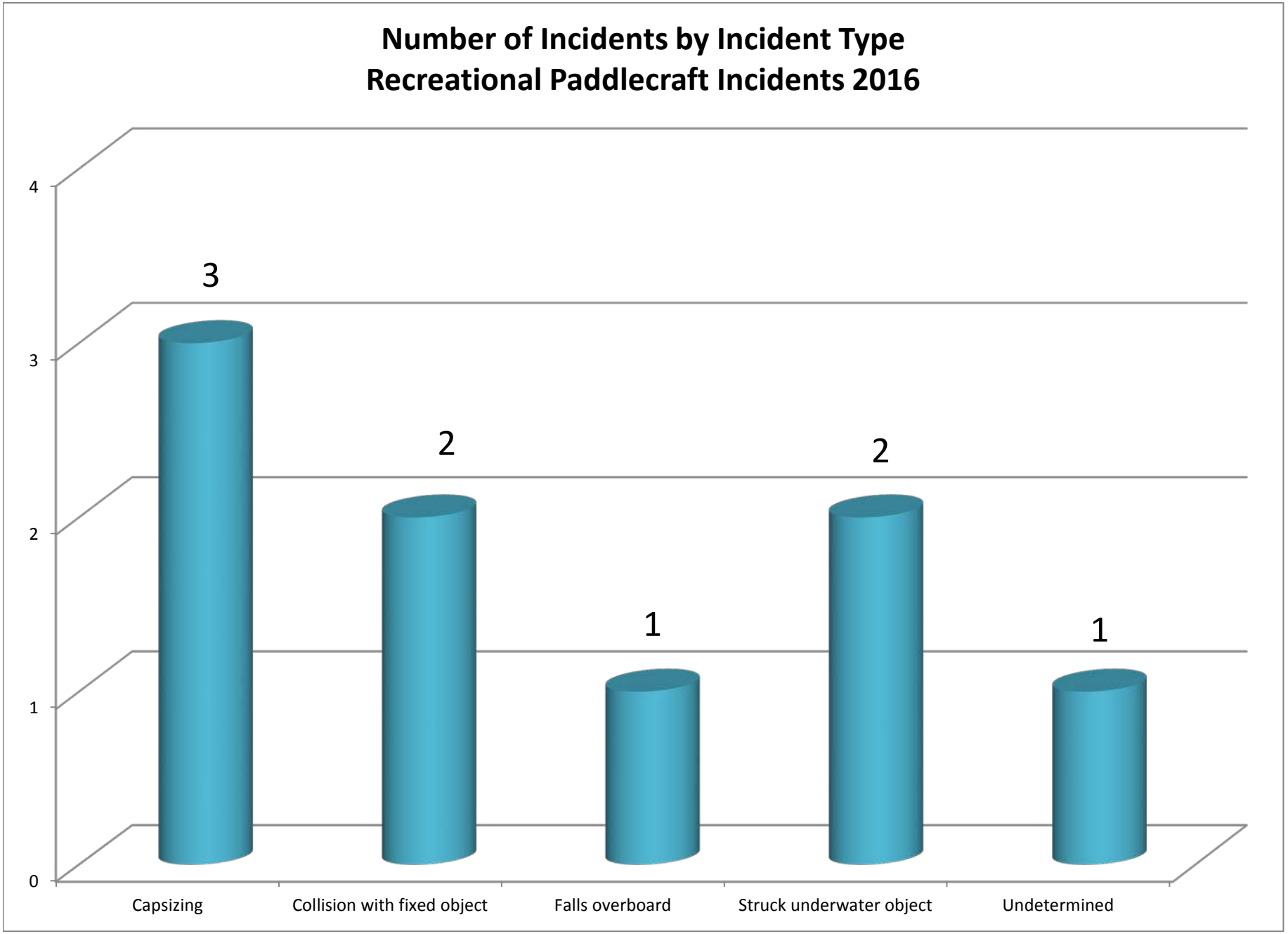

Number of Incidents by Age Category
Recreational Paddlecraft Incidents 2016
Over 65
61 through 65
56 through 60
51 through 55
46 through 50
41 through 45
36 through 40
31 through 35
26 through 30
21 through 25
16 through 20
12 through 15
Less Than 12
0
0
1
0
0
1
1
0
2
2
0
0
0
0
1
2
3

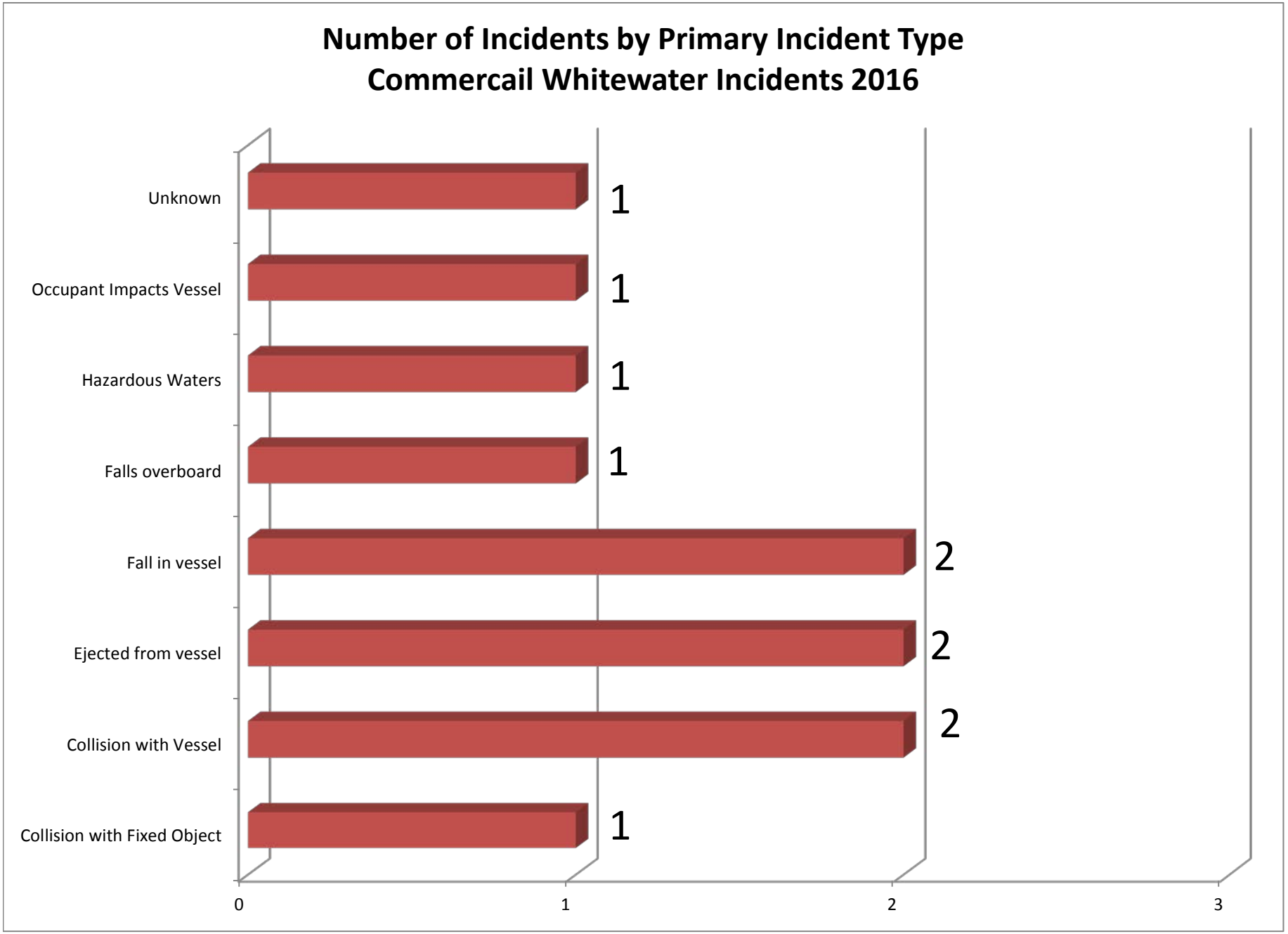

Number of Incidents by Primary Cause
Recreational Paddlecraft Incidents 2016
Undetermined
17%
Swimming ability
16%
Hazardous waters
due to currents
67%

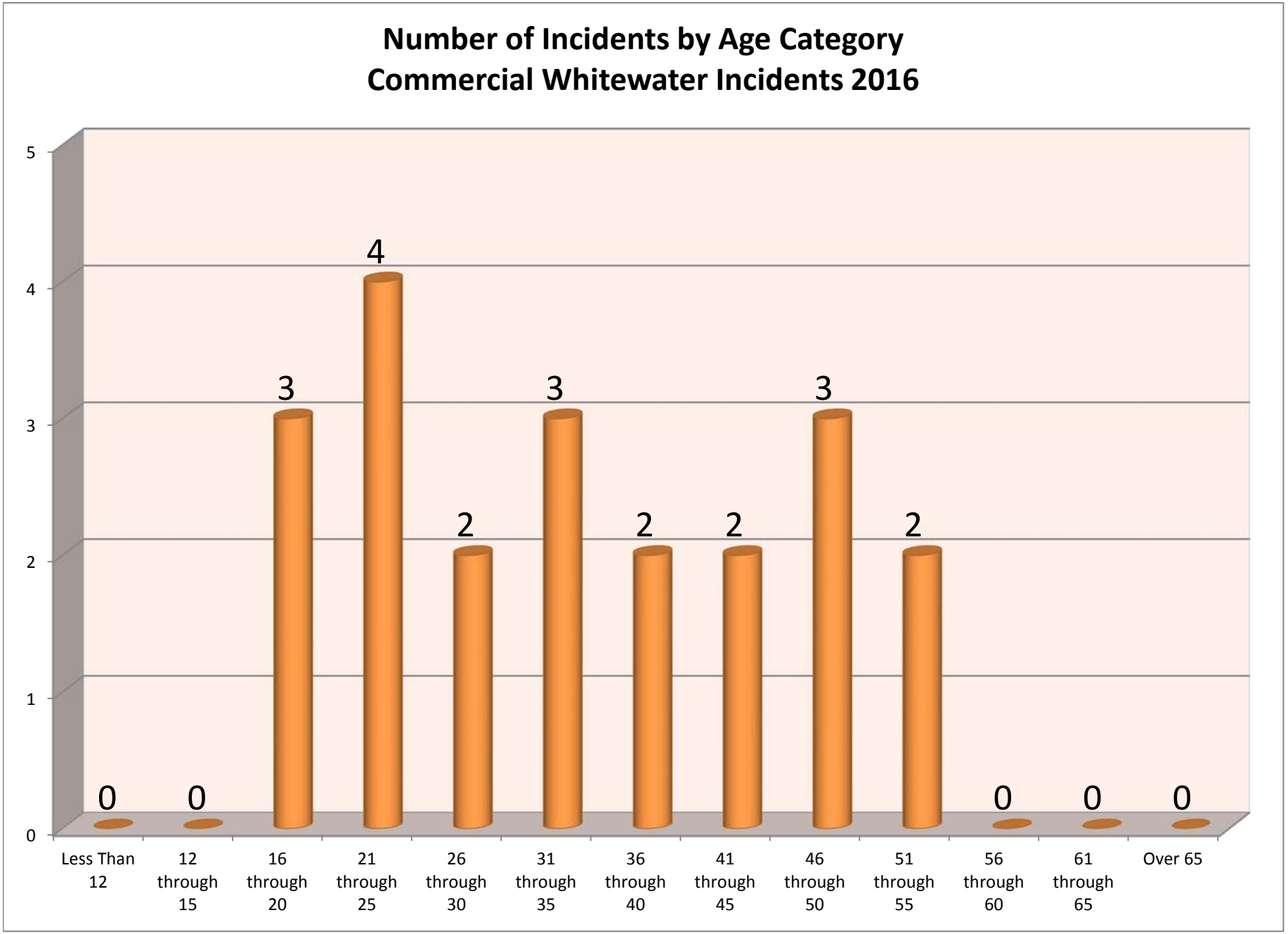

Number Of Incidents by Body of Water
Recreational Paddlecraft Incidents 2016
PIGEON RIVER
OCOEE RIVER
LAKE JUNIOR
CHEROKEE LAKE
1
3
1
1
0
1
2
3
4

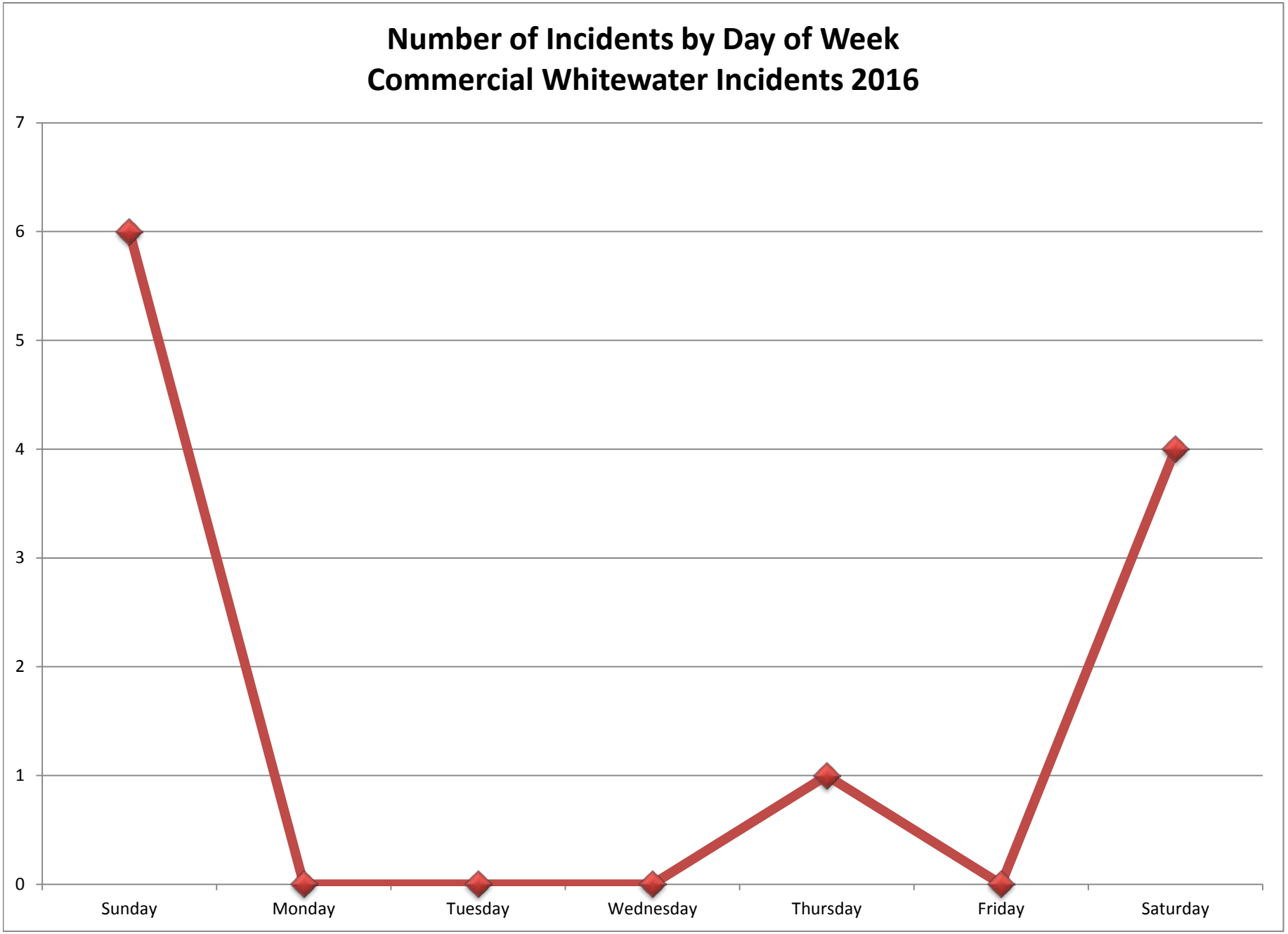
Percentage of Incidents by Vessel Type
Recreational Paddlecraft Incidents 2016

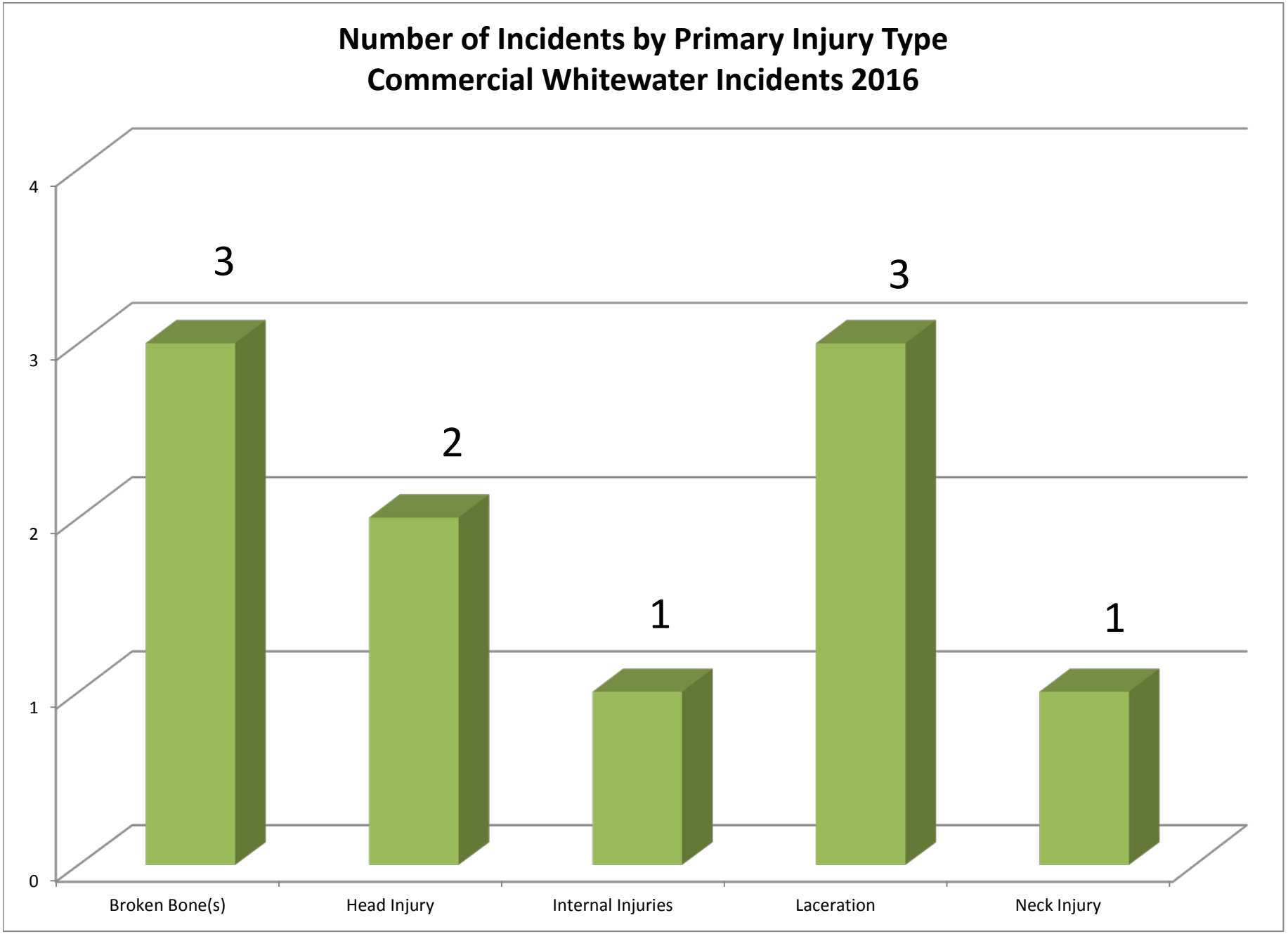



Number of Incidents by Incident Type
Recreational Paddlecraft Incidents 2016
4
3
2
1
0
3
2
1
2
1
Capsizing
Collision with fixed object
Falls overboard
Struck underwater object
Undetermined

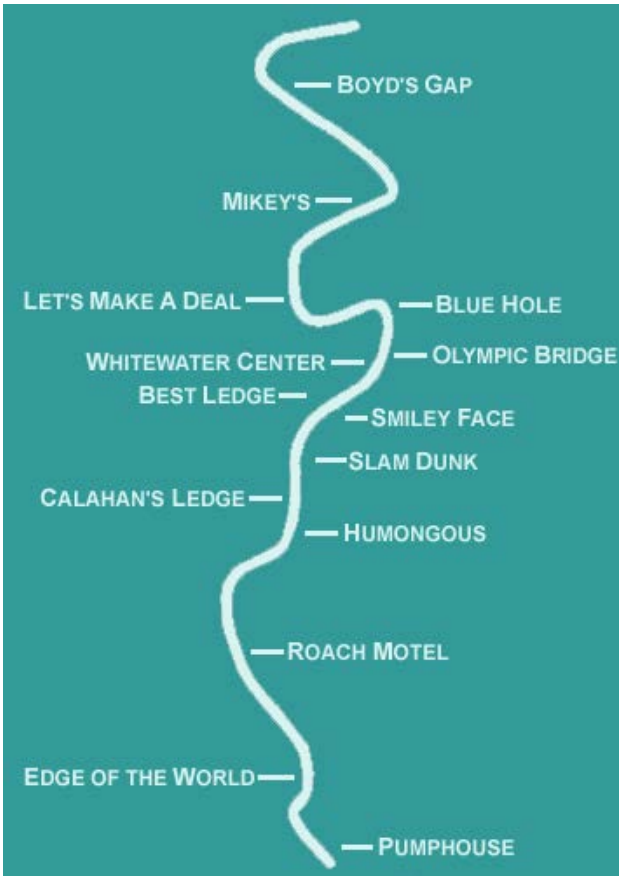

Number of Incidents by Primary Incident Type
Commercail Whitewater Incidents 2016
Unknown
Occupant Impacts Vessel
Hazardous Waters
Falls overboard
Fall in vessel
Ejected from vessel
Collision with Vessel
Collision with Fixed Object
1
1
1
1
2
2
2
1
0
1
2
3


Number of Incidents by Age Category
Commercial Whitewater Incidents 2016
5
4
3
2
1
0
0
0
3
4
2
3
2
2
3
2
0
0
0
Less Than 12
12 through 15
16 through 20
21 through 25
26 through 30
31 through 35
36 through 40
41 through 45
46 through 50
51 through 55
56 through 60
61 through 65
Over 65

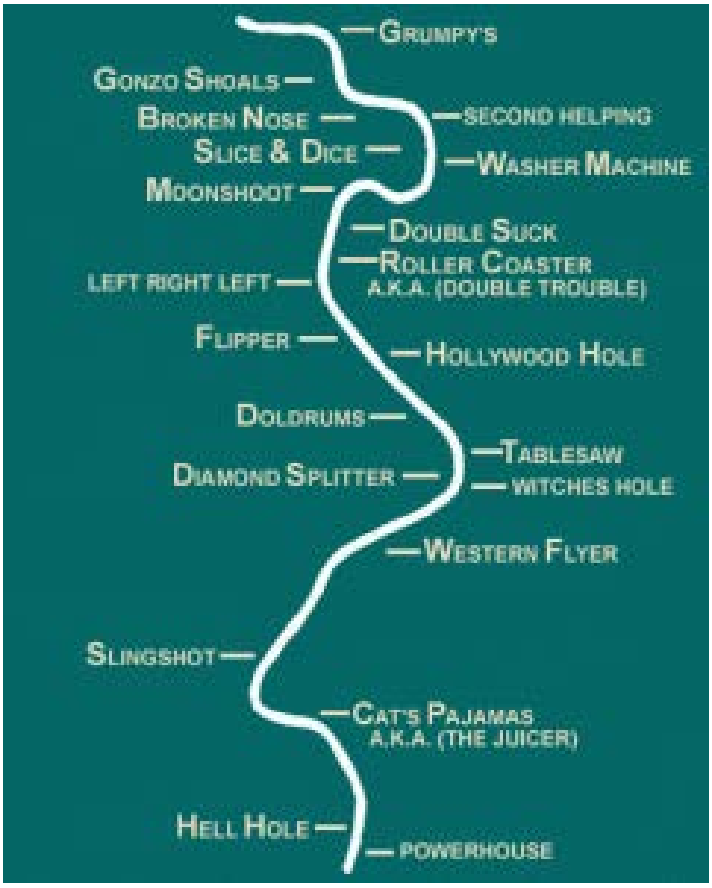

Number of Incidents by Day of Week
Commercial Whitewater Incidents 2016
7
6
5
4
3
2
1
0
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday

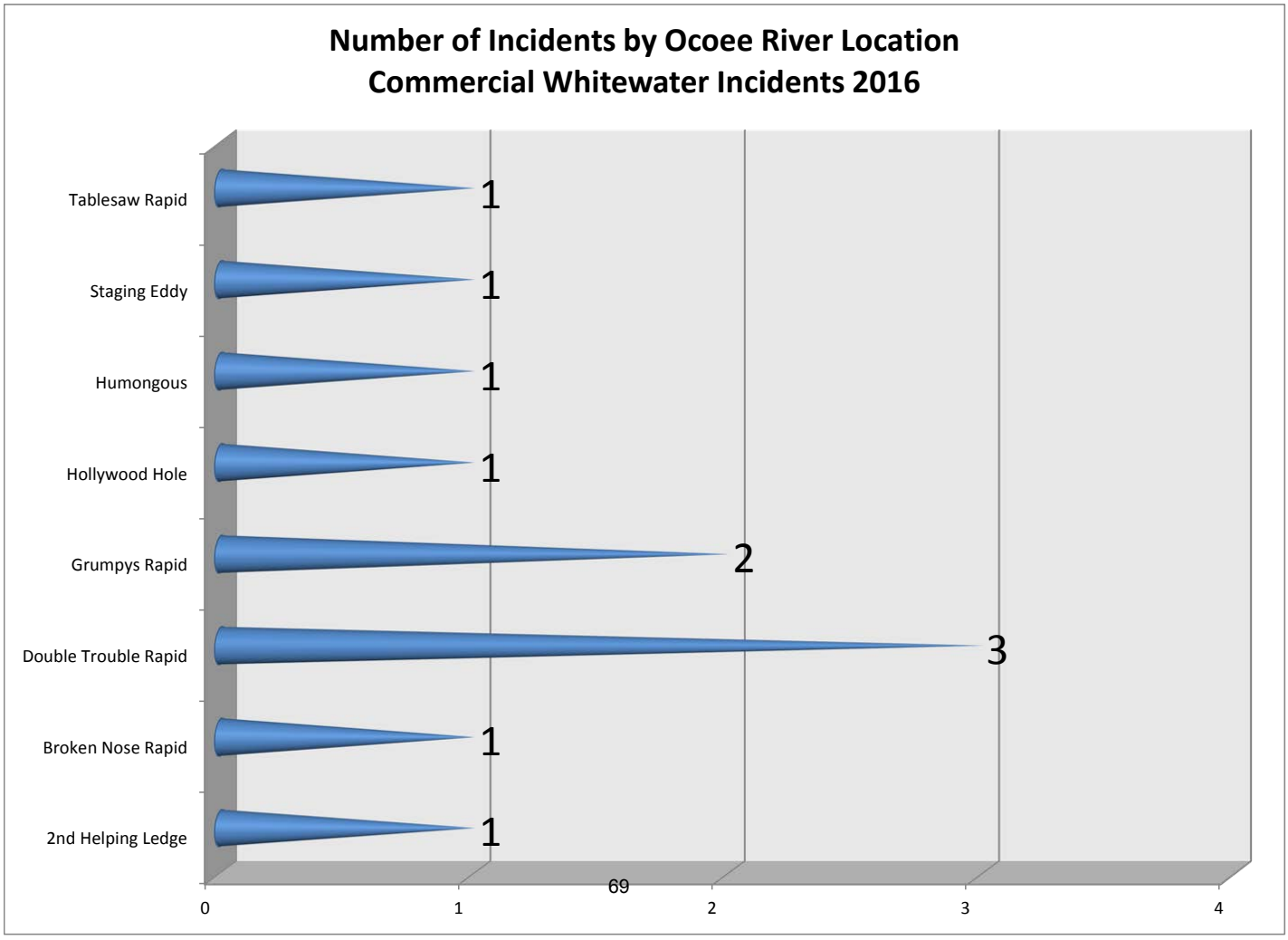

Number of Incidents by Primary Injury Type
Commercial Whitewater Incidents 2016
4
3
2
1
0
3
2
1
3
1
Broken Bone(s)
Head Injury
Internal Injuries
Laceration
Neck Injury

Upper Ocoee



Middle Ocoee





2016 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 Incidents

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 Incident 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 incident. 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 incident 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.

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 incidents 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.

i. A person dies, is injured, or property damage results from an “ice boat” incident. [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.