



Parks, Recreation and Historic Preservation

2019 Recreational Boating Report



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Executive Summary

This recreational boating report has been organized in order to help us better understand why accidents happen, while affording possible insights as to how to prevent them.

Recreational boating in New York State is a \$8 billion industry enjoyed by millions of residents and visitors alike. Compared to the 444,103 registered powerboats in 2018, 2019 had a total of 440,381 registrations, of which, 435,213 were registered for recreational purposes. Clearly, recreational boating is a large piece of the economy in the Empire State.



In 2019, New York had 15 fatal boating accidents reported. Even though it is the lowest fatality total New York has had since 2006, this still is 15 lives lost prematurely. When fatalities in 2018 were considered against the number of registered boats, New York's fatality rate was 4.33 deaths per each 100,000-registered watercraft. In 2019 that

number fell to 3.45. The long-term average is 4.47 as calculated since the year 2000. New York saw an increase in injuries from last year at 135 from 108. There was also an increase in total accidents this year compared to last year however we have had less fatalities.

2019 marks a significant year in the prevention of Recreational boating accidents and fatalities with the signing of Brianna's Law. The law, which became effective on January 1, 2020, uses a phase-in age requirement. Individuals born on or after January 1, 1993 are the first phase required to obtain a safe boating certificate. Each following year will increase the age requirement resulting in all motor vessel operators having to obtain a Safe Boating Certificate by January 1, 2025.

If you compare 2019 to 1973, New York's worst year on record, recreational boating deaths in New York State are just 12.8% of what they were. Meanwhile there are approximately 63,000 more registered boats and immeasurable more unregistered paddle

craft. This significant decrease can largely be contributed to a few key factors. The federal government created many important safety standards for boat manufacturers, most notable the Federal Boat Safety Act of 1971. Improvements in technology, such as the cell phone have allowed for faster response and increased availability of communication with boaters in need. Improvements in PFDs have made them far more comfortable to wear. Specific PFDs have been developed to maximize safety for specific on water activities such as wake boarding and personal watercraft operation. Legislation has strengthened BWI laws and changed the perception of drinking alcohol on the water. Changes to boater education laws have expanded the mandatory requirements first from youths, then to personal watercraft operators and now to include all boat operators born after January 1, 1993, and later all ages by 2025. Online education has further made boating education accessible to all. Availability of equipment, training and funding through grant programs have led to an enhanced marine law enforcement capability.

What causes recreational boating accidents fatalities on the water in New York? The obvious answer on the leading type of boating deaths is drowning. During the period 2005 - 2019, 92% of all victims were not wearing a PFD. It is impossible to tell how many people have been saved by wearing a PFD but the potential consequences of not wearing one are clear.

We also know how deadly of an impact unexpected cold-water immersion can be in both the early and late boating seasons. There are far fewer reported accidents during the cold weather months, but a much higher percentage of them result in a fatality. Cold water immersion can overcome a victim significantly faster than the effects of



hypothermia. This is because the physiology of cold water immersion involves uncontrollable physical reactions such as a gasp reflex, hyperventilation, unconsciousness, elevated heart rate and vasoconstriction. All of which can quickly overcome a boater in distress. A properly fastened PFD, along with proper cold weather clothing, is the surest way to ensure survival in cold water longer. This, coupled with the fact that most of boating deaths involve boats less than 21 feet in length, led to legislation requiring everyone on watercraft of that length and smaller to wear a PFD between

November 1st and May 1st. Following the passage of this legislation New York has seen a decrease in the percentage of fatalities occurring during that time.



Alcohol and drug use are another significant cause of fatal boating accidents in New York. Between 2005 and 2019, alcohol and drug use were found to be the primary contributing factor in 69 fatalities (22.4%), of all boating deaths. In 2019 alcohol or drugs are known to have been present in four of the fifteen fatalities (26.6%).

These substances can impair both judgment and reaction time. Alcohol also causes blood vessels to dilate which contributes to heat loss. This leads to an increased rate that hypothermia sets in when exposed to the cold.

Non-motorized watercraft represented three of the fifteen fatalities (20%) in 2019. The size of the non-motorized segment of the boating population is difficult to determine since a registration is not required in New York State. Most of these accidents involve the victim exiting the craft unexpectedly either by capsizing or falling overboard. Once in the water the use of a PFD may have assisted them in surviving.

In summary, we may now better understand that by taking some simple proactive steps, we can reasonably assure a safe day on the water. First, always assess the risks and wear a PFD when conditions require. Never mix alcohol, drugs and boating. Add in the environmental stressors from being on the water and it greatly impairs one's ability to stay alert and react. Of course, it's essential to understand as much as possible about boating before heading out so consider taking a boating safety course. Always equip your boat with the required safety equipment, file a float plan and don't forget to bring a cellphone or marine radio, in the event you need to summon assistance.

The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) goal is providing the public with a safe and enjoyable boating environment. This is accomplished by developing safe boating habits through education combined with enforcement of the Navigation Law.

Law Enforcement Activity

Law Enforcement Agency	Total Vessel Hours	Total MLE Hours	Searches and Assists	Total Vessel Inspections	BWI Arrests	Total Arrests
County						
ALBANY	16	112	0	3	0	0
ALLEGANY	305	717	7	48	0	0
CATTARAUGUS	367	437	13	25	0	0
CAYUGA	473	1315	10	48	0	6
CHAUTAUQUA	2176	5040	189	1546	28	73
CHENANGO			0			
CLINTON	330	1816	3	74	0	2
COLUMBIA	183	534	14	42	0	10
CORTLAND	30	114	1	12	0	0
DUTCHESS	498	1629	17	22	0	0
ERIE			0			
FULTON	65	245	3	11	0	4
GREENE	132	384	4	7	0	0
HAMILTON	1389	1934	23	252	0	33
HERKIMER	245	1001	0	5	0	0
JEFFERSON			5			
LEWIS	158	305	7	15	0	1
LIVINGSTON	1804	2300	63	21	0	28
MADISON	104	159	1	30	0	14
MONROE	628	4013	72	180	2	69
MONTGOMERY	25	154	3	0		
NASSAU	14541	36500	146	979	0	743
NIAGARA	566	1511	24	103	1	25
ONEIDA	398	1099	20	3	0	62
ONONDAGA			0			
ONTARIO	1037	2842	35	287	0	0
ORANGE	326	1308	6	10	0	1
ORLEANS	261	3832	13	56	0	3
OSWEGO	381	972	8	190	0	2
OTSEGO	47	249	4	14	0	1
PUTNAM	504	1327	44	59	0	8
ROCKLAND	525	615	71	50	2	15
ST. LAWRENCE	280	363	0	181	0	0
SARATOGA	1193	2454	46	597	7	123
SCHENECTADY	277	610	8	10	0	7
SCHUYLER	67	134	9	52	1	6
SENECA	289	1153	10	145	0	5
STEUBEN	281	884	34	31	0	1
SUFFOLK COUNTY PARKS	0	15	0	0	0	0
SUFFOLK COUNTY POLICE DEPARTMENT	6354	153880	878	253	4	1464
SUFFOLK COUNTY SHERIFF	1500	4500	31	213	3	41

Law Enforcement Agency	Total Vessel Hours	Total MLE Hours	Searches and Assists	Total Vessel Inspections	BWI Arrests	Total Arrests
SULLIVAN	40	142	1	2	0	5
TOMPKINS	99	413	5	10	0	0
ULSTER	936	1056	62	454	0	21
County (Continued)						
WARREN	528	1114	60	148	2	10
WASHINGTON	0	0	0	0	0	0
WAYNE	496	3098	21	31	0	5
WESTCHESTER	1870	8232	110	192	1	77
WYOMING	125	126	3	19	0	0
YATES	980	2832	29	4018	2	53
NEW YORK CITY	123800	392610	348	1276	0	215
Municipalities					0	0
ASHAROKEN	191		3	10	0	0
BABYLON			0			
BROOKHAVEN	17280	17280	75	940	0	7
BUFFALO	60	60	14	8	0	0
CARMEL			0			
CAZENOVIA	70	70	4	0	0	0
DOBBS FERRY			0			
EAST HAMPTON	757	8990	56	284	1	9
EVANS			0	0		
GLEN COVE	920	3420	36	41	0	37
GREENWOOD LAKE	298	896	14	32	0	16
HASTINGS	22	38	3	1	0	0
HEMPSTEAD	1772	17750	63	445	2	72
HUNTINGTON	2210	6000	83	96	1	472
IRVINGTON			0			
ISLIP	395	7005	10	123	0	0
MAMARONECK	1210	3090	54	134	2	26
NEW ROCHELLE	1699	5276	36	84	1	47
NORTH HEMPSTEAD	3975	7691	167	378	0	2
NORTHPORT	740	738	13	42	0	2
OSSINING	220	464	7	5	0	0
OYSTER BAY	3640	24480	140	350	0	135
PHOENIX	20	50	0	2	0	0
PORT CHESTER			0			
QUOGUE	287	445	6	65	0	22
RIVERHEAD	500	2200	26	48	0	1
RYE	651	4311	57	175	0	2
SAG HARBOR	223	223	23	65	1	15
SHELTER ISLAND	731	1319	110	285	0	126
SMITHTOWN			100			
SOUTHAMPTON	2950	13750	230	489	1	584
SOUTHOLD	730	7312	29	265	2	53
YONKERS			0			
State Agencies						
DEPARTMENT OF ENVIRONMENTAL CONSERVATION	13276	34515	185	19180	9	1414

Law Enforcement Agency	Total Vessel Hours	Total MLE Hours	Searches and Assists	Total Vessel Inspections	BWI Arrests	Total Arrests
LAKE GEORGE PARK COMMISSION	5084	6140	254	686	7	126
PARK POLICE	1571	6746	58	430	18	367
STATE POLICE	3984	7670	52	876	1	93
Totals	232093	834007	4369	37263	99	6761

2019 Vessel Registrations by County and Length

County	Total	Uncoded	Class A <16'	Class 1 16-25'	Class 2 26-39'	Class 3 40-64'	Class 4 ≥ 65'
ALBANY	8474	16	3324	4520	557	41	16
ALLEGANY	1862	5	706	1126	22	1	2
BRONX	2412	4	985	895	467	42	19
BROOME	6442	11	2942	3177	289	16	7
CATTARAUGUS	2890	6	1049	1732	97	5	1
CAYUGA	5228	17	1868	3068	263	12	0
CHAUTAUQUA	6316	29	2050	3857	356	20	4
CHEMUNG	3599	4	1386	2027	169	11	2
CHENANGO	2201	0	1144	993	59	4	1
CLINTON	5932	12	2747	2906	252	13	2
COLUMBIA	2706	2	1142	1446	106	9	1
CORTLAND	2083	7	918	1101	54	3	0
DELAWARE	1195	0	595	557	42	1	0
DUTCHESS	5980	8	2674	2736	519	38	5
ERIE	23749	68	8100	13074	2294	187	26
ESSEX	4296	9	1738	2403	133	10	3
FRANKLIN	4408	4	2092	2250	58	1	3
FULTON	4544	8	1941	2387	202	4	2
GENESEE	2177	4	822	1267	74	6	4
GREENE	2182	5	812	1193	158	11	3
HAMILTON	1829	8	812	988	17	3	1
HERKIMER	3427	13	1431	1902	76	3	2
JEFFERSON	10927	48	4219	5892	730	36	2
KINGS	4296	0	1669	1522	963	106	36
LEWIS	2237	0	1118	1081	37	1	0
LIVINGSTON	3840	10	1574	2170	76	8	2
MADISON	4421	7	1711	2511	182	8	2
MONROE	25974	57	10290	13799	1699	122	7
MONTGOMERY	1940	8	854	998	77	1	2
NASSAU	27614	61	9111	12525	5149	700	68
NEW YORK	4430	3	1275	1847	1084	192	29
NIAGARA	7812	32	2560	4516	655	45	4
ONEIDA	10877	30	4391	6034	401	18	3
ONONDAGA	20251	38	7717	11272	1126	89	9

County	Total	Uncoded	Class A <16'	Class 1 16-25'	Class 2 26-39'	Class 3 40-64'	Class 4 >= 65'
ONTARIO	7491	23	2384	4770	288	25	1
ORANGE	7945	21	3809	3560	497	50	8
ORLEANS	2003	0	806	1079	114	3	1
OSWEGO	8713	15	3620	4552	503	22	1
OTSEGO	2424	6	983	1387	44	3	1
PUTNAM	2994	7	1157	1586	223	20	1
QUEENS	5798	9	2321	2425	926	84	33
RENSSELAER	5636	0	2340	2968	302	24	2
RICHMOND	3572	7	1442	1438	618	55	12
ROCKLAND	3705	7	1781	1316	529	56	16
ST LAWRENCE	10432	17	4485	5617	291	16	6
SARATOGA	13908	19	5136	7980	733	34	6
SCHENECTADY	5370	11	2213	2832	296	15	3
SCHOHARIE	1083	0	486	555	36	4	2
SCHUYLER	1599	4	559	960	75	1	0
SENECA	2641	2	889	1586	148	13	3
STEUBEN	4826	3	1738	2950	127	6	2
SUFFOLK	62738	229	18844	30971	11314	1317	63
SULLIVAN	2930	3	1464	1375	76	8	4
TIOGA	2182	1	968	1132	76	4	1
TOMPKINS	3317	4	1060	2003	231	18	1
ULSTER	5054	7	2221	2358	432	32	4
WARREN	7337	34	2262	4464	556	13	8
WASHINGTON	3321	8	1370	1828	113	1	1
WAYNE	6397	21	2403	3526	412	32	3
WESTCHESTER	10701	13	3499	4696	2111	338	44
WYOMING	1656	1	573	1051	26	4	1
YATES	2537	4	784	1689	58	1	1
Out of State	13520	0	4614	7613	1131	150	12
TOTAL	440381	1010	163978	230039	40729	4116	509

Registered Vessels: By Length and Hull Material

< 16 FT	O/B	I/B	I/O	SAIL	OTHER	TOTAL
WOOD	1523	71	6	26	40	1666
METAL	23083	29	30	1	389	23532
PLASTIC	6924	2933	202	23	1202	11284
FIBERGLASS	17012	53314	3599	360	5049	79334
INFLATABLE	8677	58	66	6	338	9145
STEEL	602	14	7	0	39	662
ALUMINUM	33969	196	202	13	1957	36337
OTHER	1427	371	32	4	184	2018
TOTAL	93217	56986	4144	433	9198	163978
16-25 FT	O/B	I/B	I/O	SAIL	OTHER	TOTAL
WOOD	1112	1786	107	52	21	3078
METAL	13561	92	691	0	31	14375
PLASTIC	2764	454	732	89	83	4122
FIBERGLASS	64622	13414	70694	2415	832	151977
INFLATABLE	239	6	5	2	1	253
STEEL	605	37	33	1	12	688
ALUMINUM	52945	248	1240	8	229	54670
OTHER	792	16	39	9	20	876
TOTAL	136640	16053	73541	2576	1229	230039
26-39 ft	O/B	I/B	I/O	SAIL	OTHER	TOTAL
WOOD	56	643	19	29	4	751
METAL	177	82	24	2	1	286
PLASTIC	87	328	152	60	3	630
FIBERGLASS	6194	13985	15182	2241	110	37712
INFLATABLE	5	6	3	0	0	14
STEEL	28	45	15	1	7	96
ALUMINUM	912	126	130	8	7	1183
OTHER	18	22	5	6	6	57
TOTAL	7477	15237	15530	2347	138	40729
40-64 FT	O/B	I/B	I/O	SAIL	OTHER	TOTAL
WOOD	2	95	1	6	1	105
METAL	2	12	6	1	1	22
PLASTIC	1	43	5	8	0	57
FIBERGLASS	136	3150	275	240	13	3814
INFLATABLE	1	1	0	0	0	2
STEEL	8	35	3	4	3	53
ALUMINUM	18	21	9	2	2	52
OTHER	2	5	1	0	3	11
TOTAL	170	3362	300	261	23	4116
>65 FT	O/B	I/B	I/O	SAIL	OTHER	TOTAL
WOOD	2	7	1	0	0	10
METAL	6	4	2	0	2	14
PLASTIC	17	4	1	0	0	22
FIBERGLASS	72	205	51	3	18	349
INFLATABLE	26	0	2	0	2	29
STEEL	1	9	0	0	1	11
ALUMINUM	62	4	1	0	2	69
OTHER	0	2	0	0	2	4
TOTAL	186	235	58	3	27	509
Uncoded	O/B	I/B	I/O	SAIL	OTHER	TOTAL
TOTAL	8	0	0	0	1002	1010

ACCIDENTS

The chart below illustrates registration and accident figures for the years 1970 through 2019. During that time period, while vessel registrations have generally risen, accidents and fatalities have steadily decreased.

A collision between two or more vessels is still the most common type of boating accident and results in the most injuries. Boaters must recognize that the waterways are increasingly more crowded and that vessel operation must be adjusted accordingly. Operators must be constantly aware of what is happening around them. Mixing alcohol or drugs increases the level of danger when boating. Not only is it illegal, but the lessening of one's judgment and balance can have deadly consequences. Alcohol and drugs have been shown to be important contributing factors in many fatal incidents.

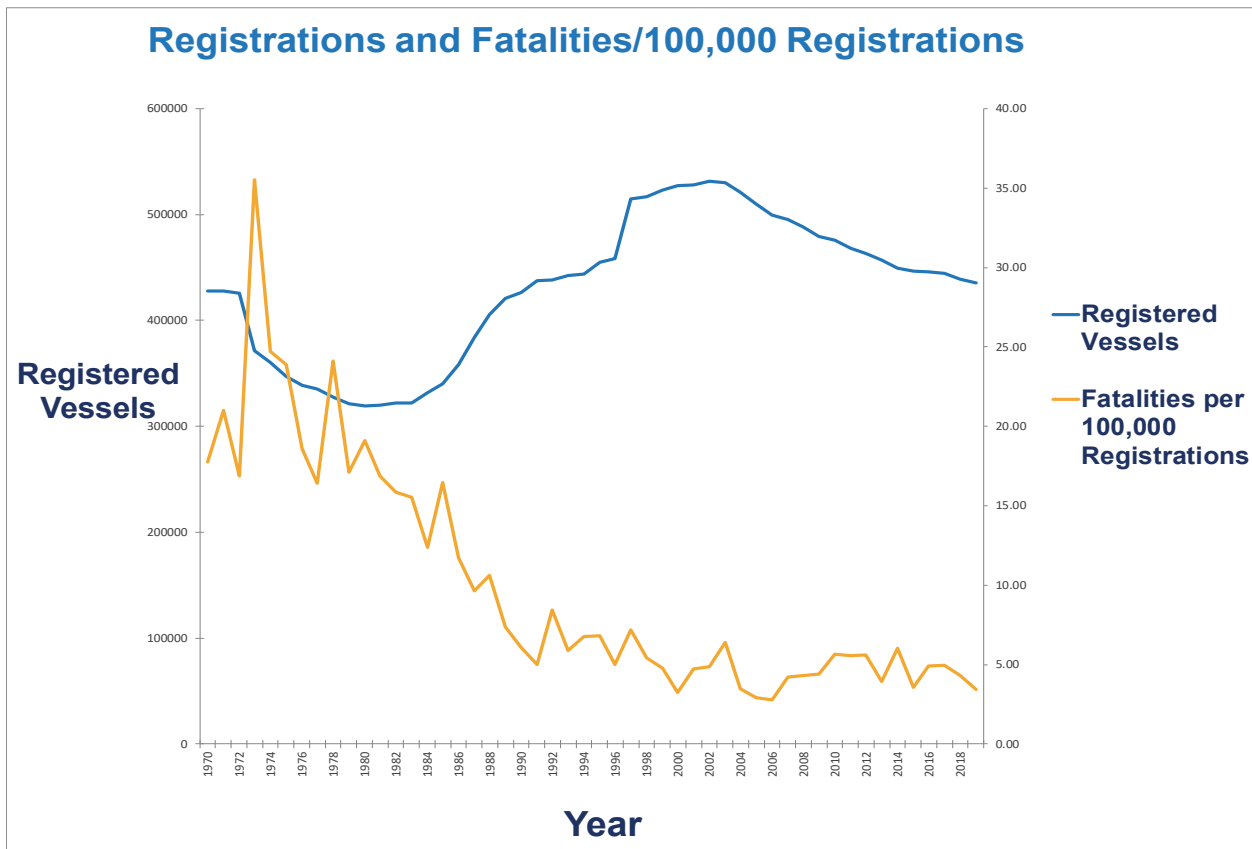
A reduction of collisions and fatalities can also be achieved by showing courtesy to other boaters. Boating education classes are also important, but boaters must be willing to apply what they have learned. Tougher laws are making it possible to remove dangerous boaters from our waterways. Education and enforcement must be combined with, and complemented by, fair and enforceable laws.

Reportable Accidents

For Recreational Vessels:

- Loss of Life or Disappearance
- Injury Involving More Than Basic First Aid
- Total Property Damage to any one party in Excess of \$1000

It is also vitally important to increase the use of PFDs, especially in the off-season when the water is cold and when help may not be able to respond quickly. Roughly one quarter of all fatalities occur when boaters are operating during the off-season, in boats less than twenty-one feet in length, when victims may end up in the water without the benefit of a PFD. While legislation mandates that PFDs be worn in those instances, it is still incumbent upon the boater to use their best judgment; if the water is cold, wear a PFD, and dress for the weather!



Accident Data: 1970 - 2019

Year	Fatalities per 100,000 Registrations	Registered Vessels	Accidents	Injuries	Fatalities
1970	17.76	427956	293	88	76
1971	21.02	428114	318	87	90
1972	16.90	426030	301	63	72
1973	35.51	371764	349	139	132
1974	24.70	360311	318	68	89
1975	23.90	347211	368	129	83
1976	18.61	338464	420	136	63
1977	16.40	335288	500	132	55
1978	24.10	327782	400	Unknown	79
1979	17.11	321470	293	Unknown	55
1980	19.09	319492	322	196	61
1981	16.89	319641	308	197	54
1982	15.84	321881	309	180	51
1983	15.53	321881	390	248	50
1984	12.36	331742	271	153	41
1985	16.46	340300	319	182	56
1986	11.72	358400	298	157	42
1987	9.64	383868	310	163	37
1988	10.61	405331	362	120	43
1989	7.37	420885	333	109	31
1990	6.09	426617	323	119	26
1991	5.03	437579	265	119	22
1992	8.44	438342	228	130	37
1993	5.87	442745	226	138	26
1994	6.76	443856	222	90	30
1995	6.81	455189	291	130	31
1996	5.02	458092	325	168	23
1997	7.19	514538	322	182	37
1998	5.42	516738	326	181	28
1999	4.78	523321	315	193	25
2000	3.22	527426	288	127	17
2001	4.73	528113	288	140	25
2002	4.89	531579	284	152	26

Year	Fatalities per 100,000 Registrations	Registered Vessels	Accidents	Injuries	Fatalities
2003	6.42	529844	303	137	34
2004	3.46	520758	204	93	18
2005	2.94	510185	219	143	15
2006	2.80	499301	183	101	14
2007	4.24	495623	206	133	21
2008	4.30	488167	215	104	21
2009	4.38	479161	191	78	21
2010	5.68	475688	243	128	27
2011	5.56	467828	226	190	26
2012	5.61	463539	241	126	26
2013	3.94	456909	195	112	18
2014	6.01	449489	194	103	27
2015	3.58	446582	187	98	16
2016	4.93	446117	208	141	22
2017	4.95	444710	181	72	22
2018	4.33	438891	203	108	19
2019	3.45	435213	251	129	15



Accidents by County and Waterway

County / Waterway	Accidents	Injures	Fatalities
ALBANY	0	0	0
BRONX	3	1	0
EASTCHESTER BAY	2	0	0
LONG ISLAND SOUND	1	1	0
BROOME	1	0	1
CHENANGO RIVER	1	0	1
CAYUGA	4	1	0
CAYUGA LAKE	1	1	0
OWASCO LAKE	2	0	0
OWASCO RIVER	1	0	0
CHAUTAUQUA	10	6	0
CASSADAGA LAKE	1	1	0
CHAUTAUQUA LAKE	8	5	0
LAKE ERIE	1	0	0
CLINTON	0	0	0
DUTCHESS	3	1	0
HUDSON RIVER	3	1	0
ERIE	9	3	0
LAKE ERIE	5	3	0
NIAGARA RIVER	4	0	0
ESSEX	2	0	0
LAKE CHAMPLAIN	1	0	0
SCHROON LAKE	1	0	0
FRANKLIN	0	0	0
		0	
FULTON	1	0	1
SACANDAGA RESERVOIR	1	0	1
GREENE	0	0	0
HAMILTON	2	3	0
FOURTH LAKE	1	2	0
LONG LAKE	1	1	0
HERKIMER	1	2	0
SECOND LAKE	1	2	0
JEFFERSON	3	1	0
ST. LAWRENCE RIVER	3	1	0

County / Waterway	Accidents	Injures	Fatalities
KINGS	4	2	0
EAST RIVER	1	1	0
GRAVESEND BAY	1	1	0
JAMAICA BAY	2	0	0
LEWIS	1	3	0
BLACK RIVER	1	3	0
LIVINGSTON	0	0	0
MADISON	0	0	0
MONROE	10	8	1
GENESEE RIVER	2	0	0
IRONDEQUOIT BAY	4	4	1
LAKE ONTARIO	3	2	0
Quary Pond (On Clover Street)	1	2	0
NASSAU	29	20	1
BELLMORE CHANNEL	1	0	0
CAUERBACH CANAL	1	2	0
FREEPORT CREEK	2	0	0
GREAT SOUTH BAY	1	1	0
HEMPSTEAD HARBOR	1	1	0
JONES INLET	2	1	0
LONG ISLAND SOUND	6	10	0
MERRICK BAY	1	1	0
MIDDLE BAY	1	0	1
MILL NECK CREEK	1	1	0
NARROWS BAY	1	1	0
OYSTER BAY	4	0	0
RACE HORSE CHANNEL	1	1	0
REYNOLD'S CHANNEL	1	0	0
SLOOP CHANNEL	2	1	0
WOODCLEFT CANAL	3	0	0
NEW YORK	0	0	0

County / Waterway	Accidents	Injures	Fatalities
NIAGARA	0	0	0
ONEIDA	4	1	1
ONEIDA LAKE	4	1	1
ONONDAGA	6	8	1
ONEIDA LAKE	3	2	1
OTISCO LAKE	1	3	0
SENECA RIVER	2	3	0
ONTARIO	1	0	0
SENECA LAKE	1	0	0
ORANGE	1	0	1
GREENWOOD LAKE	1	0	1
ORLEANS	0	0	0
OSWEGO	6	4	1
LAKE ONTARIO	2	0	0
ONEIDA LAKE	2	2	0
OSWEGO RIVER	1	0	1
SALMON RIVER	1	2	0
OTSEGO	0	0	0
CANANDARAGO LAKE			
QUEENS	2	0	0
EAST RIVER	1	0	0
ROCKAWAY POINT INLET	1	0	0
RICHMOND	1	0	0
GREAT KILLS HARBOR	1	0	0
ROCKLAND	1	0	1
HUDSON RIVER	1	0	1
SARATOGA	10	2	0
HUDSON RIVER	1	0	0
ROUND LAKE	1	1	0
SACANDAGA RESEVOIR	2	0	0
SARATOGA LAKE	6	1	0
SCHENECTADY	1	0	0
MOHAWK RIVER	1	0	0
SCHUYLER	0	0	0
SENECA	2	1	0

County / Waterway	Accidents	Injures	Fatalities
CAYUGA-SENECA CANAL	1	0	0
SENECA LAKE	1	1	0
ST. LAWRENCE	1	0	0
HANNAWA POND	1	0	0
STEUBEN	2	2	0
KEUKA LAKE	1	2	0
SAG HARBOR BAY	1	0	0
SUFFOLK	75	41	5
ATLANTIC OCEAN	2	1	0
CONNETQUOT RIVER	1	0	0
GREAT PECONIC BAY	3	6	1
GREAT SOUTH BAY	22	18	1
HASHAMOMACK POND	1	0	1
HUNTINGTON HARBOR	1	2	0
LITTLE PECONIC BAY	2	0	0
LONG ISLAND SOUND	8	5	0
MORICHES BAY	3	3	1
MT. SINAI HARBOR	2	1	0
NOYAC BAY	1	0	0
OYSTER BAY	2	0	0
PATCHOGUE RIVER	1	0	0
PECONIC BAY	8	0	0
SAG HARBOR BAY	6	3	0
SHELTER ISLAND SOUND	5	0	0
SHINNECOCK BAY	3	2	0
SHINNECOCK CANAL	1	0	1
SMITHTOWN BAY	1	0	0
SOUTHOLD BAY	1	0	0

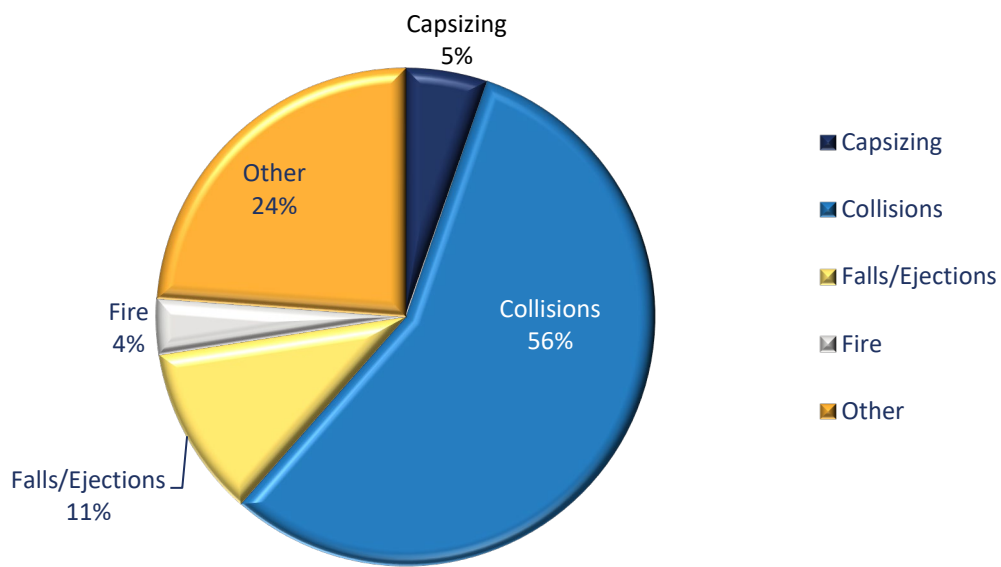
County / Waterway	Accidents	Injures	Fatalities
WEST NECK HARBOR	1	0	0
SULLIVAN	3	3	0
CAMP SIMCHA PRIVATE LAKE	1	1	0
SACKETT LAKE	1	1	0
SWINGING BRIDGE RESEVOIR	1	1	0
TOMPKINS	0	0	0
ULSTER	1	0	0
HUDSON RIVER	1	0	0
WARREN	22	15	0
LAKE GEORGE	22	15	0
WASHINGTON	2	2	0
LAKE GEORGE	2	2	0
WAYNE	2	1	0
LAKE ONTARIO	2	1	0
WESTCHESTER	16	4	0
HUDSON RIVER	7	3	0
LONG ISLAND SOUND	8	1	0
NEW ROCHELLE HARBOR	1	0	0
YATES	2	2	1
LAKE CHAMPLAIN	1	0	1
SENECA LAKE	1	2	0



Accident Types

Accident Type	Vessels	Injuries	Fatalities
Capsizing	19	8	4
Carbon Monoxide Poisoning	0	0	0
Collision with Fixed Object	25	27	1
Collision with Floating Object	4	0	0
Collision With Commercial Boat	1	0	0
Collision With Recreational Boat	173	22	1
Falls Onboard Boat	10	11	0
Falls Overboard	11	8	3
Fire/Explosion (Fuel)	6	7	0
Fire/Explosion (Other)	7	0	0
Flooding/Swamping	16	9	0
Grounding	18	5	0
Other	19	4	1
Person Ejected From Vessel	19	12	4
Sinking	1	0	0
Skier Mishap	9	10	0
Struck by Boat	8	10	0
Struck by Propeller	1	1	0
Struck Submerged Object	13	4	1
Unknown	1	0	0

Summary of Accident Types



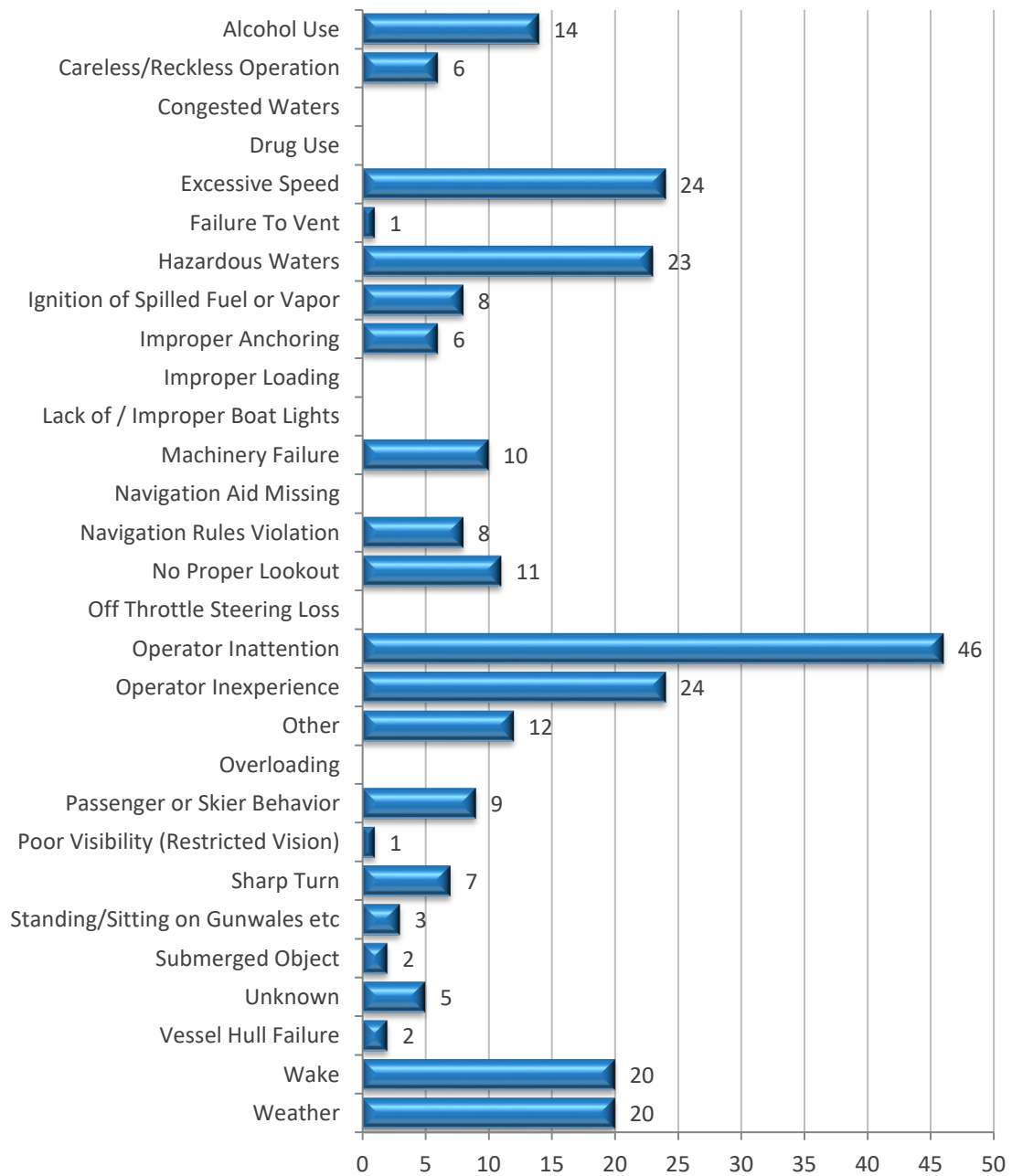
Accident Type and Vessel Operation

Accident Type	Operation	Vessels	Injuries	Fatalities
Capsizing	At Anchor			
	Being Towed	2	0	0
	Changing Speed	1	1	1
	Cruising	3	4	0
	Drifting	1	0	1
	Rowing or Paddling	3	1	2
	Sailing	2	0	0
	Unknown	7	2	0
Carbon Monoxide Poisoning				
Collision With Fixed Object	At Anchor	1	0	0
	Changing Speed	1	2	0
	Cruising	14	25	1
	Docking/Undocking	3	0	0
	Tied to Dock/ Mooring	5	0	0
Collision With Floating Object	Cruising	2	0	0
	Docking/ Undocking	2	0	0
Collision With Commercial Boat (e.g., Tug, Barge)	Changing Speed	1	0	0
Collision With Recreational Boat	At Anchor	15	0	0
	Being Towed	1	0	0
	Changing Direction	9	2	0
	Changing Speed	4	0	0
	Cruising	44	9	1
	Cruising, Changing Direction	3	0	0
	Docking/Undocking	28	4	0
	Drifting	10	4	0
	Launching	1	0	0
	Other	5	0	0
	Rowing or Paddling	3	3	0
	Sailing	2	0	0
	Tied to Dock/ Mooring	37	0	0
	Unknown	11	0	0

Accident Type	Operation	Vessels	Injuries	Fatalities
Falls In/ On Boat	Changing Speed	1	1	0
	Cruising	6	8	0
	Drifting	1	1	0
	Tied to Dock/Mooring	1	1	0
	Unknown	1	0	0
Falls Overboard	Cruising	4	2	2
	Docking/ Undocking	2	2	0
	Drifting	1	2	0
	Other	2	1	0
	Rowing or Paddling	1	0	1
	Tied to Dock/ Mooring	1	1	0
Fire/Explosion (Fuel)	Cruising	2	0	0
	Drifting	2	3	0
	Launching	1	4	0
	Tied to Dock/Mooring	1	0	0
Fire/Explosion (Other)	At Anchor	1	0	0
	Cruising	4	0	0
	Tied to Dock/Mooring	2	0	0
Flooding/Swamping	At Anchor	6	6	0
	Being Towed	1	1	0
	Changing Direction	1	0	0
	Cruising	3	0	0
	Drifting	2	2	0
	Sailing	1	0	0
	Unknown	2	0	0
Grounding	Cruising	14	5	0
	Other	1	0	0
	Sailing	1	0	0
	Tied to Dock/ Mooring	1	0	0
	Unknown	1	0	0
Other	Cruising	9	1	0
	Changing Direction	1	0	0
	Other	4	2	1
	Sailing	1	0	0
	Tied to Dock/Mooring	2	1	0
Person Leaves/ Ejected From Boat	Changing Direction	1	0	0
	Changing Speed	1	1	0
	Cruising	5	4	0
	Drifting	7	4	4
	Launching	1	0	0
	Other	1	1	0
	Unknown	3	2	0
Sinking	Tied to Dock/ Mooring	1	0	0
	Cruising	7	8	0

Accident Type	Operation	Vessels	Injuries	Fatalities
Skier Mishap	Towing Another Vessel	1	1	0
	Other	1	1	0
Struck By Boat	At Anchor	1	0	0
	Changing Direction	1	1	0
	Cruising	1	1	0
	Drifting	1	0	0
	Launching	2	2	0
	Other	1	3	0
	Unknown	1	3	0
Struck By Propeller or Propulsion Unit	Drifting	1	1	0
Struck Submerged Object	Changing Direction	1	0	0
	Cruising	11	4	1
	Docking/ Undocking	1	0	0
Unknown	Tied to Dock/ Mooring	1	0	0

Cause of Accident by Vessel



Accident Type and Cause

Accident Type	Cause	Vessels	Injures	Fatalities
Capsizing	Alcohol Use	1	1	0
	Hazardous Waters	10	1	2
	Improper Anchoring	1	0	0
	Operator Inexperience	1	0	0
	Operator Inexperience	1	0	0
	Passenger or Skier Behavior	1	0	1
	Other	1	1	1
	Unknown	1	4	0
	Wake	1	1	0
	Weather	2	0	0
Collision w/ Fixed Object	Alcohol Use	5	11	1
	Excessive Speed	3	0	0
	Hazardous Waters	1	0	0
	Improper Anchoring	1	0	0
	Navigation Rules Violation	1	2	0
	No Proper Lookout	1	0	0
	Operator Inattention	1	0	0
	Operator Inexperience	2	0	0
	Other	1	2	0
	Unknown	6	12	0
	Wake	1	0	0
	Weather	2	0	0
Collision w/ Floating Object	Excessive Speed	1	0	0
	Operator Inattention	1	0	0
	Operator Inexperience	1	0	0
	Submerged Object	1	0	0
Collision With Commercial Boat				
	Sharp Turn	1	0	0
Collision With Recreational Boat	Alcohol Use	2	0	0
	Careless/Reckless Operation	4	1	0
	Excessive Speed	9	1	0
	Hazardous Waters	4	0	0
	Improper Anchoring	3	0	0
	Machinery Failure	3	0	0
	Navigation Rules Violation	6	1	1
	No Proper Lookout	6	1	0
	Operator Inattention	28	1	0
	Operator Inexperience	11	3	0
	Other	4	0	0
	Passenger or Skier Behavior	1	1	0
	Poor Visibility (Restricted Vision)	1	0	0
	Sharp Turn	3	4	0

Accident Type	Cause	Vessels	Injures	Fatalities
	Unknown	71	9	0
	Wake	7	0	0
	Weather	10	0	0
Fall In/ On Boat	Excessive Speed	1	0	0
	No Proper Lookout	1	2	0
	Sitting/ Standing on Gunwales, etc.	1	0	0
	Unknown	3	0	3
	Wake	4	5	0
Falls Overboard	Hazardous Waters	2	0	2
	Operator Inattention	2	2	0
	Passenger or Skier Behavior	3	3	1
	Sitting/ Standing on Gunwales, etc.	1	1	0
	Unknown	2	1	0
	Weather	1	1	0
Fire/Explosion (Fuel)	Failure To Vent	1	2	0
	Ignition of Spilled Fuel or Vapor	4	4	0
	Operator Inattention	1	1	0
Fire/Explosion (Other)	Ignition of Spilled Fuel or Vapor	4	0	0
	Machinery Failure	2	0	0
	Other	1	0	0
Flooding/ Swamping	Improper Anchoring	1	0	0
	Machinery Failure	2	0	0
	Operator Inattention	1	0	0
	Other	1	0	0
	Passenger or Skier Behavior	2	8	0
	Unknown	3	0	0
	Vessel Hull Failure	2	0	0
	Wake	2	1	0
	Weather	2	0	0
	Grounding	Alcohol Use	2	0
Hazardous Waters		1	0	0
Machinery Failure		1	0	0
No Proper Lookout		1	0	0
Operator Inattention		7	3	0
Operator Inexperience		3	2	0
Unknown		3	0	0
Other	Excessive Speed	9	1	0
	Other	2	2	0
	Sharp Turn	1	0	0
	Unknown	4	0	1
	Wake	1	0	0
	Weather	2	1	0

Accident Type	Cause	Vessels	Injures	Fatalities
Person Leaves Or Is Ejected From Vessel	Alcohol Use	2	1	2
	Careless/Reckless Operation	2	2	0
	Hazardous Waters	3	2	0
	Machinery Failure	1	0	0
	Operator Inexperience	3	3	0
	Other	1	0	1
	Sharp Turn	1	0	0
	Standing/Sitting on Gunwales etc	1	1	0
	Unknown	4	2	1
	Wake	1	1	0
Sinking	Machinery Failure	1	0	0
Skier Mishap	No Proper Lookout	1	1	0
	Other	1	1	0
	Passenger or Skier Behavior	1	1	0
	Sharp Turn	1	1	0
	Unknown	1	1	0
	Wake	3	4	0
	Weather	1	1	0
Struck by Boat	Alcohol Use	2	4	0
	Operator Inattention	1	1	0
	Operator Inexperience	1	1	0
	Starting In Gear	1	1	0
	Unknown	3	3	0
Struck by Propeller	Other	1	1	0
Struck Submerged Object	Excessive Speed	1	2	0
	Hazardous Waters	2	0	0
	Navigation Rules Violation	1	0	0
	No Proper Lookout	1	0	0
	Operator Inattention	4	0	0
	Operator Inexperience	2	2	0
	Passenger or Skier Behavior	1	0	1
Submerged Object	1	0	0	

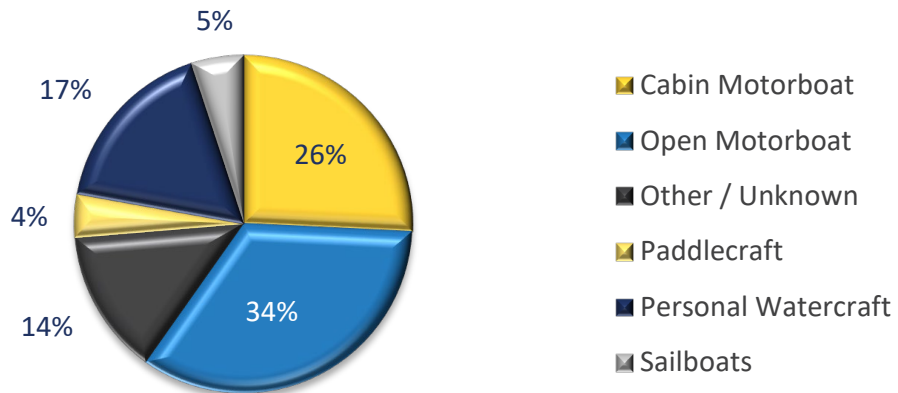
Vessel Type and Accident Type

Vessel Type	Accident Type	Vessels	Injuries	Fatalities
Auxiliary sail	Collision w/ Fixed Object	1	0	0
	Collision With Recreational Boat	6	0	0
	Flooding/Swamping	1	0	0
	Grounding	1	0	0
	Other	1	0	0
Cabin motorboat	Collision w/ Fixed Object	12	12	1
	Collision w/ Floating Object	2	0	0
	Collision With Recreational Boat	48	1	0
	Falls Overboard	2	2	0
	Fire/Explosion (Fuel)	2	0	0
	Fire/Explosion (Other)	3	0	0
	Flooding/Swamping	5	6	0
	Grounding	9	4	0
	Other	6	1	0
	Skier Mishap	1	2	0
	Struck Submerged Object	3	0	0
Canoe	Capsizing	1	0	1
	Collision With Recreational Boat	1	2	0
Catamaran	Capsizing	1	4	0
Dredge Barge	Struck by Boat	1	0	0
Houseboat	Collision With Recreational Boat	1	0	0
Inflatable	Collision With Fixed Object	1	0	0
Kayak	Capsizing	7	2	1
	Collision With Recreational Boat	2	1	0
	Person Leaves Or Is Ejected From Vessel	1	1	0
Marine Patrol Boat	Collision With Recreational Boat	1	0	0
Motor Sail Yacht	Collision With Recreational Boat	1	0	0
Open Motorboat	Capsizing	6	2	2
	Collision w/ Fixed Object	7	13	0
	Collision w/ Floating Object	1	0	0
	Collision With Commercial Boat	1	0	0
	Collision With Recreational Boat	54	6	0
	Fall in/ on Boat	6	7	0
	Falls Overboard	3	1	1
	Fire/Explosion (Fuel)	4	7	0
	Fire/Explosion (Other)	4	0	0
	Flooding/Swamping	8	1	0
	Grounding	3	0	0
	Other	4	1	0
	Person Leaves Or Is Ejected From Vessel	6	4	2
	Sinking	1	0	0
	Skier Mishap	6	6	0
Struck by Boat	1	3	0	

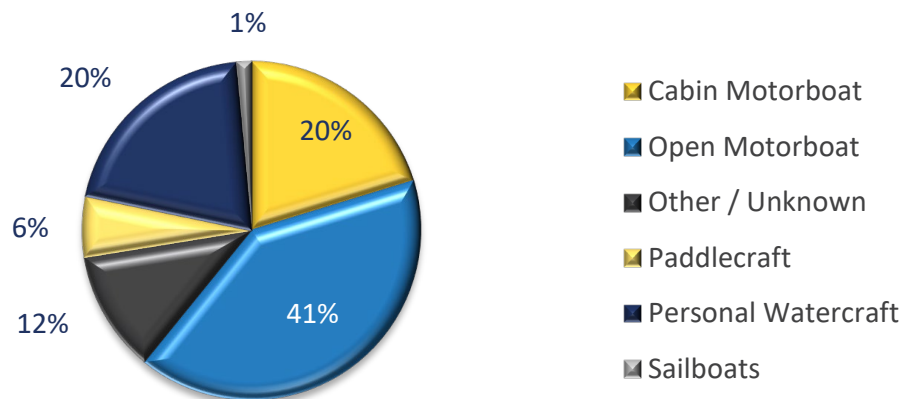
Vessel Type	Accident Type	Vessels	Injuries	Fatalities
Open Motorboat	Struck by Propeller or Propulsion Unit	1	1	0
	Struck Submerged Object	7	4	0
PWC	Collision w/ Fixed Object	2	2	0
	Collision w/ Floating Object	1	0	0
	Collision With Recreational Boat	36	10	1
	Fall on Boat	3	3	0
	Grounding	2	1	0
	Other	1	1	0
	Person Leaves Or Is Ejected From Vessel	9	6	0
	Skier Mishap	1	1	0
	Struck by Boat	5	4	0
	Struck Submerged Object	2	0	0
Pontoon Boat	Collision w/ Fixed Object	2	0	0
	Collision With Recreational Boat	13	0	0
	Falls Overboard	4	4	1
	Grounding	13	0	0
	Other	1	0	0
	Person Leaves Or Is Ejected From Vessel	2	1	2
Pump-Out Boat	Skier Mishap	1	1	0
	Collision With Recreational Boat	1	0	0
Rowboat	Collision With Recreational Boat	1	2	0
	Struck Submerged Object	1	0	1
Sail Only	Capsizing	3	0	0
	Collision With Recreational Boat	1	0	0
	Grounding	1	0	0
	Other	2	1	0
Sailing Yacht	Collision With Recreational Boat	1	0	0
SUP	Falls Overboard	1	0	1
Swim Platform	Struck by Boat	1	3	0
Trimaran	Capsizing	1	0	0
Unknown	Collision With Recreational Boat	6	0	0
	Falls In/ On Boat	1	1	0
	Flooding/Swamping	2	2	0
	Grounding	1	0	0
	Other	5	0	1
	Person Leaves Or Is Ejected From Vessel	1	0	0



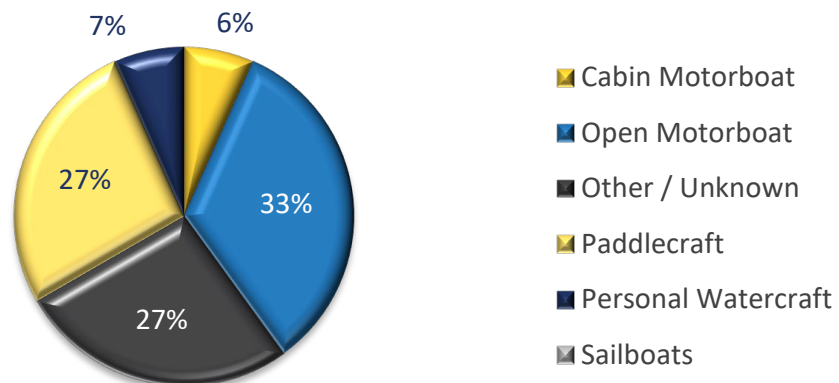
Accidents



Injuries



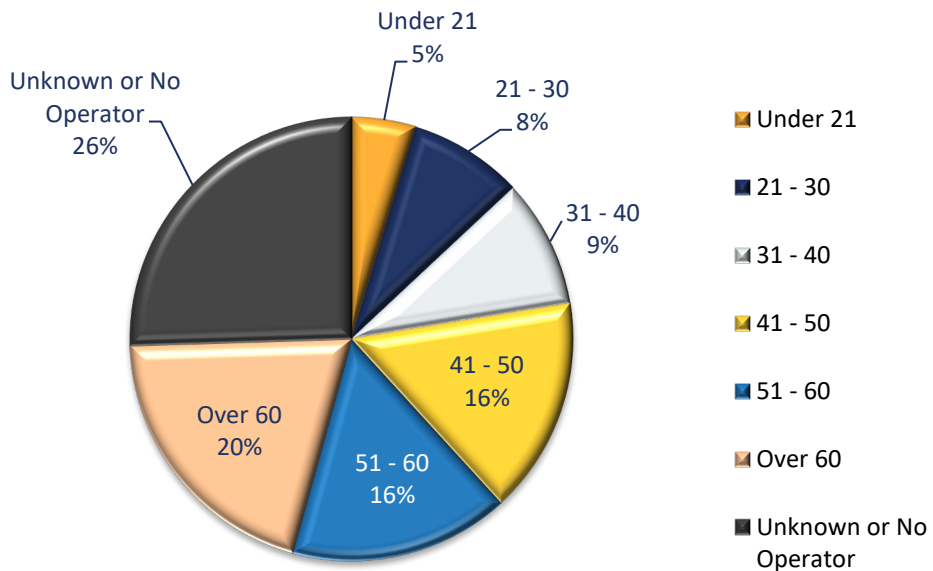
Fatalities



Operator Age

Age Group	Vessels	Injures	Fatalities
Under 21	17	9	1
21 - 30	30	8	3
31 - 40	34	10	3
41 - 50	57	30	3
51 - 60	58	43	1
Over 60	73	28	2
Unknown or No Operator	92	10	2

Vessels by Operator Age



Age of Operator and Boating Education

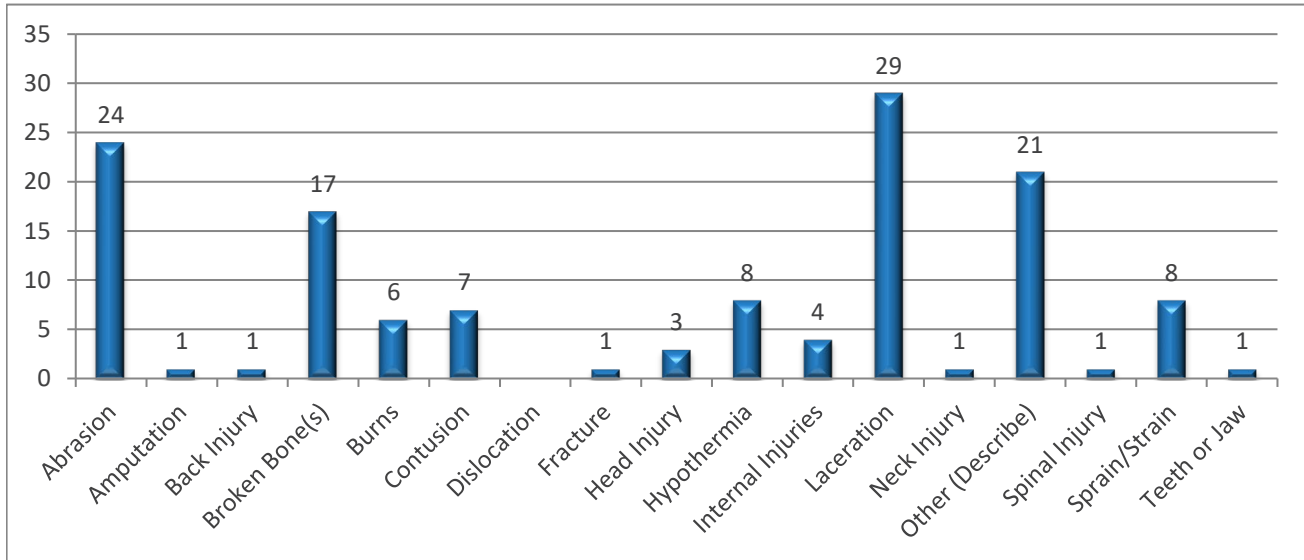
Age Group	Education	Vessels	Injuries	Fatalities
Under 21	Internet Course	3	2	0
	None	4	2	1
	State Course	4	2	0
	Unknown	6	3	0
21 - 30	Internet Course	2	0	0
	None	9	3	1
	State Course	10	4	0
	Unknown	8	1	2
	USCG Auxiliary	1	0	0
31 - 40	Internet Course	2	0	0
	None	11	2	0
	State Course	6	3	0
	Unknown	15	3	3
41 - 50	Internet Course	1	0	0
	None	18	12	0
	State Course	13	7	0
	Unknown	23	10	3
	USCG Auxiliary	2	1	0
51 - 60	Internet Course	1	1	0
	None	17	15	1
	State Course	11	5	0
	Unknown	26	21	0
	US Power Squadron	3	1	0
Over 60	Internet Course	2	1	0
	None	13	5	0
	State Course	12	4	0
	Unknown	36	18	2
	US Power Squadron	3	0	0
	USCG Auxiliary	7	0	0
Unknown	Unknown	92	10	2



Age of Operator and Boating Experience

Operator Age	Experience	Vessels	Injuries	Fatalities
Under 21	Under 10 Hours	6	3	1
	10 to 100 Hours	5	2	0
	100-500 Hrs.	4	2	0
	Over 500 Hrs.	3	0	0
	Unknown	2	2	0
21 - 30	Under 10 Hours	6	3	0
	10 to 100 Hours	7	0	1
	100-500 Hrs.	7	3	0
	Over 500 Hrs.	3	0	0
	Unknown	7	2	2
31 - 40	Under 10 Hours	7	1	0
	10 to 100 Hours	9	3	0
	100-500 Hrs.	5	0	0
	Over 500 Hrs.	3	3	0
	Unknown	10	3	3
41 - 50	Under 10 Hours	6	4	0
	10 to 100 Hours	18	7	0
	100-500 Hrs.	13	9	2
	Over 500 Hrs.	9	5	0
	Unknown	11	5	1
51 - 60	Under 10 Hours	6	3	0
	10 to 100 Hours	12	4	0
	100-500 Hrs.	16	18	1
	Over 500 Hrs.	9	3	0
	Unknown	15	15	0
Over 60	Under 10 Hours	5	3	0
	10 to 100 Hours	12	4	0
	100-500 Hrs.	15	2	0
	Over 500 Hrs.	23	10	0
	Unknown	18	9	2
Unknown	Under 10 Hours	1	0	0
	10 to 100 Hours	3	2	0
	100-500 Hrs.	1	0	0
	Over 500 Hrs.	2	0	0
	Unknown	26	5	2

Injuries



Type of Injury, Type of Vessel

Vessel	Injury Type	Injuries	Vessel	Injury Type	Injuries	
Auxiliary sail	Other	1	Personal watercraft	Abrasion	7	
Cabin Motorboat	Abrasion	2		Broken Bone(s)	3	
	Amputation	1		Contusion	2	
	Broken Bone(s)	5		Internal Injuries	1	
	Contusion	2		Laceration	8	
	Fracture	1		Neck Injury	1	
	Hypothermia	1		Laceration	0	
	Laceration	4		Other	3	
	Other	6		Sprain/ Strain	1	
	Sprain/Strain	5		Teeth or Jaw	1	
	Canoe	Abrasion		2	Unknown	1
Catamaran	Hypothermia	4		Pontoon Boat	Internal Injuries	2
Kayak	Hypothermia	3			Laceration	2
	Laceration	1	Other		1	
Open Motorboat	Abrasion	11	Unknown		1	
	Broken Bone(s)	7	Rowboat	Abrasion	1	
	Burns	6	Back Injury	1		
	Contusion	2	Sail only	Head Injury	1	
	Head Injury	2	Swim Platform	Abrasion	1	
	Internal Injuries	1	Broken Bone(s)	2		
	Laceration	13	Unknown	Laceration	1	
	Other	10		Unknown	2	
	Spinal Injury	1				
	Unknown	2				

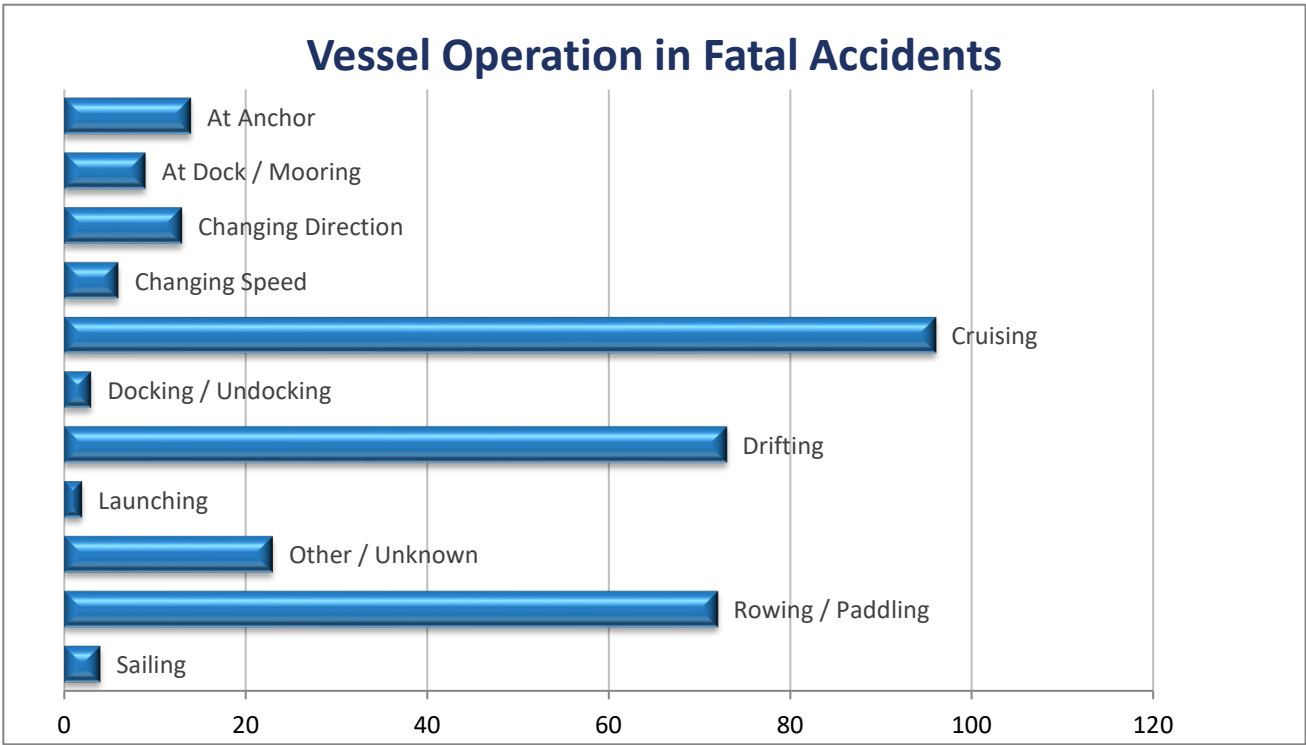
2019 Summary of Fatal Accidents

Date	County	Waterway	Cause	Vessel	Accident Type	Fatalities
4/13/2019	MONROE	IRONDEQUOIT BAY	Hazardous Waters	Canoe	Capsizing	1
<p>A group of 3 decided to canoe over to Bayside. While heading towards the dock a passenger was joking around and making the canoe sway. The combination of rough waves plus canoe swaying caused the vessel to flip over ejecting paddlers.</p>						
5/31/2019	YATES	LAKE CHAMPLAIN	Passenger or Skier Behavior	Open Motorboat	Capsizing	1
<p>Shortly after arriving at the southern most point of the bay, one of the passengers stood up in the boat to urinate off the side of the boat. Upon doing so the boat began to rock before ultimately capsizing, thus sending the four individuals into the water. Three of the members each claimed to have stayed near or on the capsized boat, while the 4th member began to swim to shore. He eventually disappeared from sight and the other. The fourth members' body was eventually found the next morning.</p>						
6/27/2019	BROOME	CHENANGO RIVER	Hazardous Waters	Kayak	Capsizing	1
<p>A man was kayaking with a group of people in the Chenango River when his boat capsized in Chenango Forks. Troopers in Binghamton were called to the river at 6:03 p.m. Soon after, the man's body was found.</p>						
7/5/2019	ONEIDA	ONEIDA LAKE	Alcohol Use	Open Motorboat	Person Leaves Or Is Ejected From Vessel	1
<p>Vessel was drifting when all 4 people on board jumped off to swim. Deceased dove in head first. It was reported that others on board saw him struggling under water. Deceased never surfaced as a result. Deceased BAC 0.18%.</p>						
7/6/2019	ONONDAGA	ONEIDA LAKE	Alcohol Use/ Recent Surgery	Pontoon Boat	Person Leaves Or Is Ejected From Vessel	1
<p>As soon as the deceased got into the water he started drifting away from the boat. The other passengers on board grabbed life jackets and jumped in to help deceased but were unsuccessful. Deceased had recent 'bird cage surgery' on his back that would've limited his mobility. Deceased BAC 0.04%.</p>						
7/14/2019	NASSAU	MIDDLE BAY	Excessive Speed	Personal Watercraft	Collision With Recreational Boat	1
<p>Vessel 1 was traveling approx. 55-55 mph in an easterly direction in a narrow channel with heavy vessel traffic in Middle Bay. Vessel 2 was traveling in a westerly direction outside of the channel to the south of vessel 1. Vessel 2 attempted to cross the channel in front of vessel 1 and a collision ensued.</p>						
7/14/2019	SUFFOLK	MORICHES BAY	Poor Visibility (Restricted Vision)	Open Motorboat	Capsizing	1
<p>Vessel 1 while traveling west-bound turned towards Moriches Inlet in a North Western direction running over vessel 2. Operator of vessel 2 jumped off prior to impact. Vessel 2 capsized. Passenger on vessel 2 was struck by the propeller of vessel 1. Passenger on vessel 2 was deceased upon police arrival.</p>						

Date	County	Waterway	Cause	Vessel	Accident Type	Fatalities
7/20/2019	FULTON	SACANDAGA RESEVOIR	Drug Use	Unknown	Other	1
Boater was swimming in the lake off of a boat in the area of the campground when the boater had difficulty swimming and went underwater. The state police Underwater Recovery Team responded to the area and searched for deceased. They were assisted by the state Department of Environmental Conservation, Fulton County Sheriff's Office, Saratoga County Sheriff's Office and multiple fire departments.						
8/2/2019	SUFFOLK	HASHAMOMACK POND	Hazardous Waters	SUP	Falls Overboard	1
While paddle boarding during a yoga paddle board class victim fell off of the paddle board. She was taken under a railroad bridge by the swift current while being tethered to the paddle board. The tether became caught on part of the bridge structure. A witness cut her tether and brought her back to shore.						
8/3/2019	SUFFOLK	SHINNECOCK CANAL	Sharp Turn	Pontoon Boat	Falls Overboard	1
Operator while turning caused rider on tube to fall off. On the approach back to the fallen passenger. Victim had cardiac arrest. Suffolk county officers responded and removed deceased.						
8/18/2019	ORANGE	GREENWOOD LAKE	OTHER	Pontoon Boat	Person Leaves Or Is Ejected From Vessel	1
On given date and time, officers responded to given location in regards to a missing swimmer. Witnesses informed us that deceased jumped off of his boat to assist young children who were swimming in the lake and were having difficulty getting back to the boat. During his effort to help the children, deceased went under the water and never resurfaced. Deceased was not wearing a PFD at the time of the incident.						
9/23/2019	SUFFOLK	GREAT SOUTH BAY	Alcohol Use	Open Motorboat	Person Leaves Or Is Ejected From Vessel	1
Operator of vessel stopped vessel abruptly and deceased passenger fell overboard. Deceased did not have a lifejacket on.						
10/4/2019	OSWEGO	OSWEGO RIVER	Passenger or Skier Behavior	Rowboat	Struck Submerged Object	1
The operator stated he was driving the boat up river and his friend wanted to go to the other side of the wall and fish. Operator stated that his boat then hit a rock in the water and deceased fell into the water. Deceased had his leg caught up in the anchor line and that was pulling him down into the water.						
10/18/2019	ROCKLAND	HUDSON RIVER	Hazardous Waters	Open Motorboat	Falls Overboard	1
Vessel carrying 8 people (1 adult, 7 children), after stop switch lanyard was disturbed, stopped abruptly lurching forward where it began to collect water. Vessel slowly turned over it's starboard side trapping an 8-year old male victim under it causing death due to drowning.						
11/10/2019	SUFFOLK	GREAT PECONIC BAY	Alcohol Use	Cabin Motorboat	Collision w/ Fixed Object	1
Vessel was driven into a tall bulkhead at cruising speed. The vessel struck the bulkhead causing severe damage to the vessel and the bulkhead. The operator and passengers were thrown forward inside of the cockpit of the vessel causing serious physical injury.						

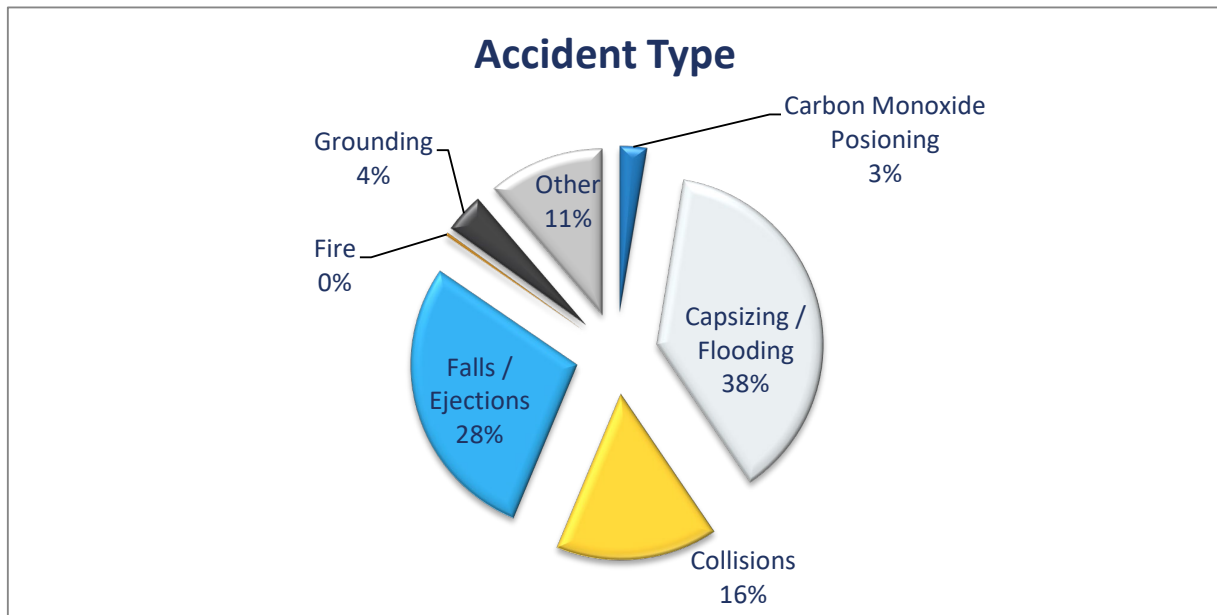
Vessel Operation in Fatal Boating Accidents 2005-2019

Operation	Fatalities
At Anchor	14
Changing Direction	7
Changing Speed	5
Changing Speed, Changing Direction	1
Cruising	91
Cruising, Changing Direction	5
Docking/Undocking	3
Drifting	72
Drifting, Launching	1
Launching	2
Other	1
Rowing or Paddling	72
Sailing	4
Tied to Dock/Mooring	9
Unknown	22



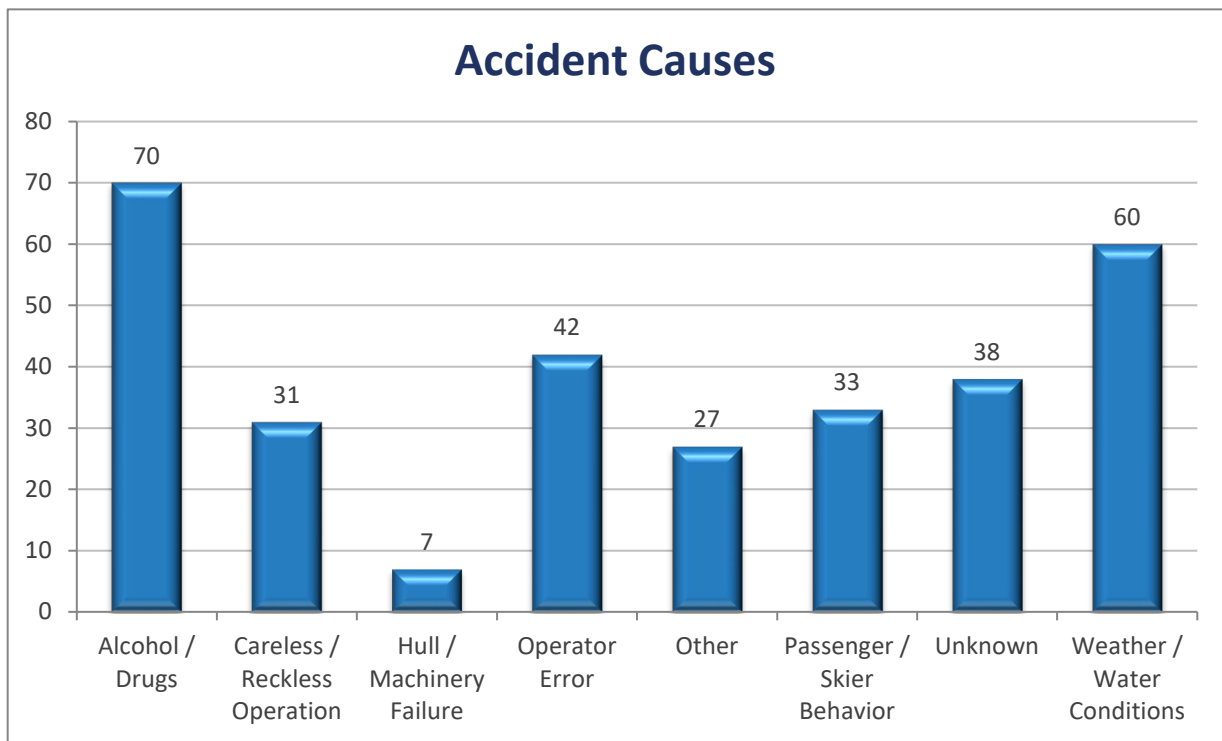
Fatal Accident Type 2005-2019

Accident Type	Fatalities
Capsizing	97
Carbon Monoxide Poisoning	8
Collision w/ Fixed Object	26
Collision w/ Floating Object	4
Collision w/ Vessel	10
Collision With Recreational Boat	9
Falls in Boat	2
Falls Overboard	47
Fire/Explosion (Fuel)	1
Flooding/Swamping	16
Grounding	12
Other	4
Person Leaves Or Is Ejected From Vessel	39
Sinking	5
Skier Mishap	7
Struck by Boat	3
Struck by Propeller or Propulsion Unit	3
Struck Submerged Object	3
Sudden Medical Condition	3
Unknown	12

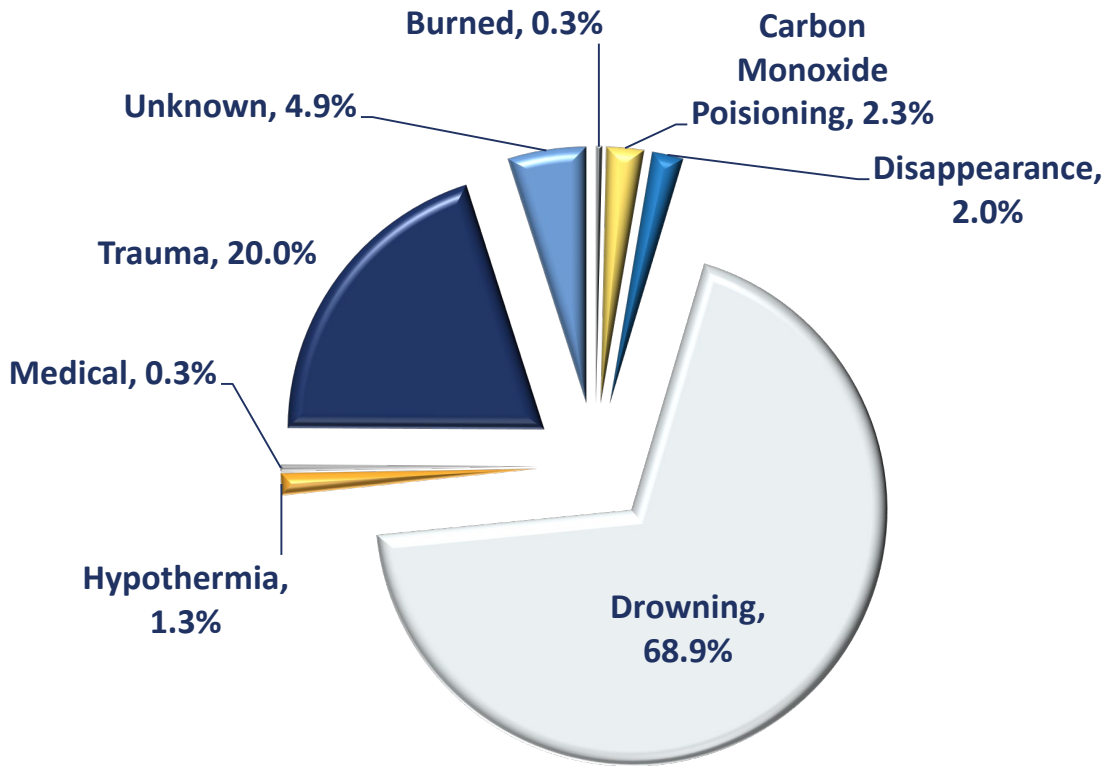


Fatal Accidents Causes 2005-2019

Accident Causes	Fatalities	Accident Causes	Fatalities
Alcohol Use	62	No Proper Lookout	15
Careless/Reckless Operation	4	Operator Inattention	10
Dam/Lock	2	Operator Inexperience	11
Drug Use	8	Other	14
Excessive Speed	13	Overloading	10
Hazardous Waters	35	Passenger or Skier Behavior	29
Ignition of Spilled Fuel or Vapor	1	Poor Visibility (Restricted Vision)	1
Improper Anchoring	4	Sharp Turn	4
Improper Loading	5	Standing/Sitting on Gunwales etc..	4
Lack of / Improper Boat Lights	2	Unknown	38
Machinery Failure	6	Vessel Hull Failure	1
Navigation Rules Violation	2	Wake	3
		Weather	24



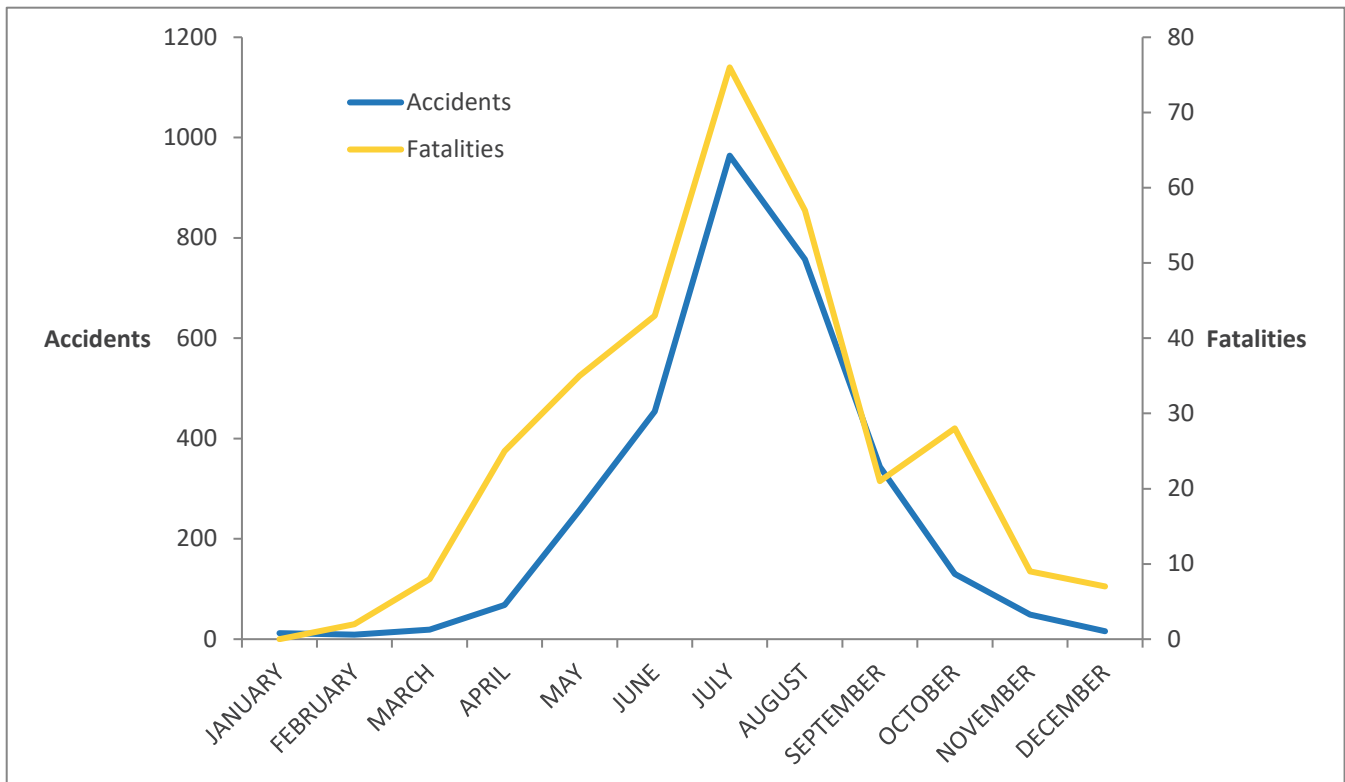
Cause of Fatality 2005-2019



Cause of Fatality	Fatalities
Burned	1
Carbon Monoxide Poisoning	7
Disappearance	5
Drowning	212
Hypothermia	4
Medical	1
Trauma	61
Unknown	15

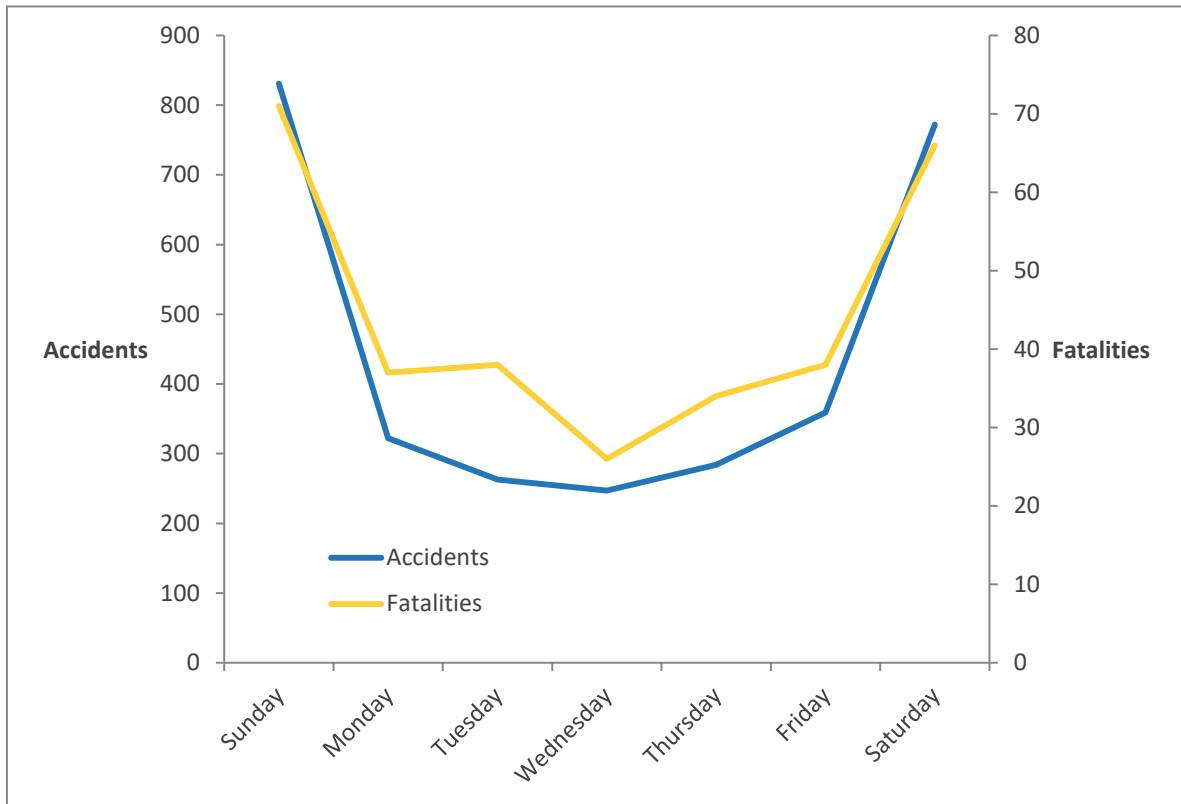
Accident Occurrence by Month 2005-2019

Month	Accidents	Fatalities
JANUARY	12	0
FEBRUARY	9	2
MARCH	19	8
APRIL	68	25
MAY	257	35
JUNE	454	43
JULY	964	76
AUGUST	757	57
SEPTEMBER	344	21
OCTOBER	130	28
NOVEMBER	49	9
DECEMBER	16	7



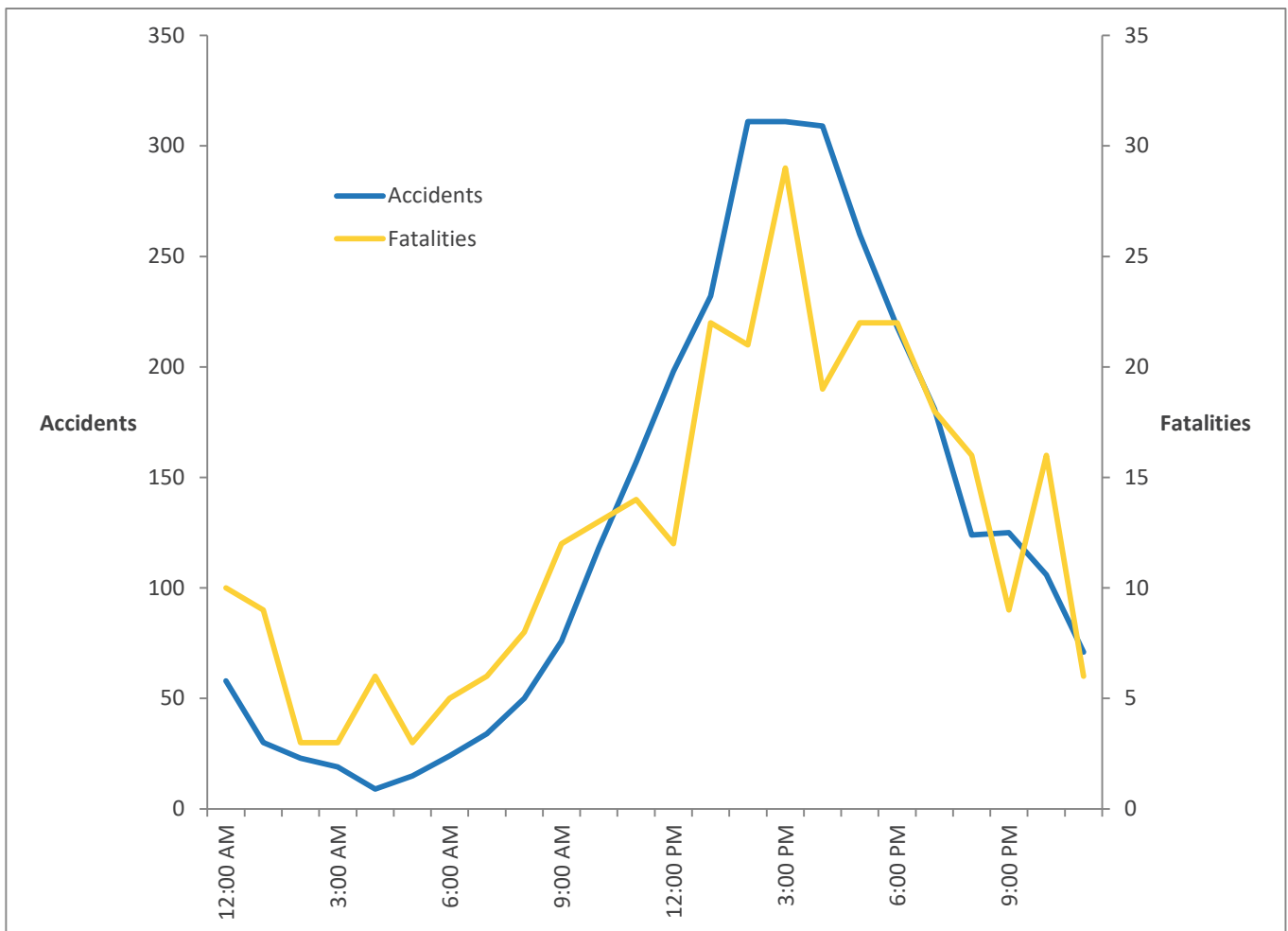
Accident Occurrence by Day 2005-2019

DAY	Accidents	Fatalities
Sunday	831	71
Monday	322	37
Tuesday	263	38
Wednesday	247	26
Thursday	284	34
Friday	359	38
Saturday	772	66



Accident Occurrence by Time 2005-2019

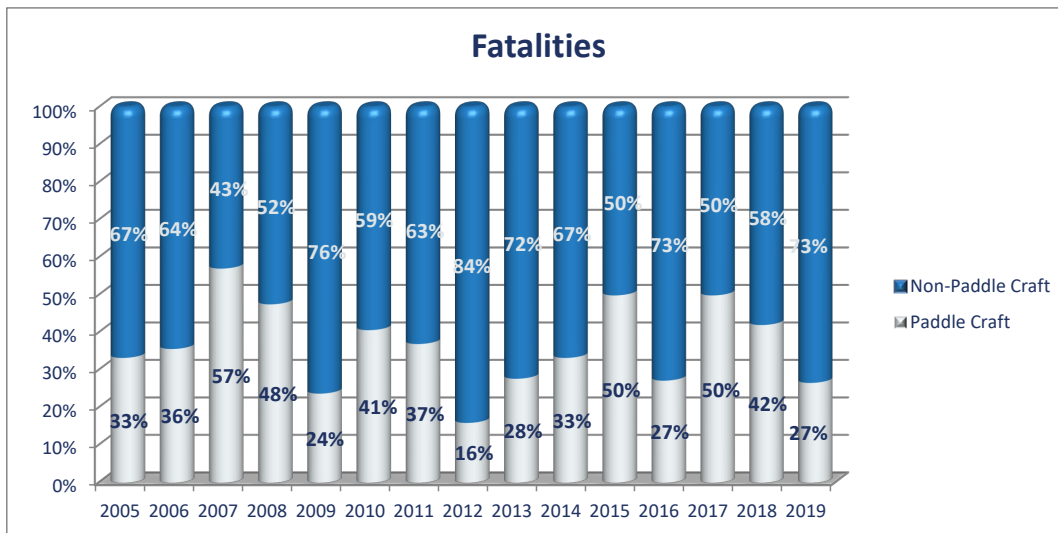
AM			PM		
Time	Accidents	Fatalities	Time	Accidents	Fatalities
12 to 1	58	10	12 to 1	198	12
1 to 2	30	9	1 to 2	232	22
2 to 3	23	3	2 to 3	311	21
3 to 4	19	3	3 to 4	311	29
4 to 5	9	6	4 to 5	309	19
5 to 6	15	3	5 to 6	260	22
6 to 7	24	5	6 to 7	218	22
7 to 8	34	6	7 to 8	181	18
8 to 9	50	8	8 to 9	124	16
9 to 10	76	12	9 to 10	125	9
10 to 11	118	13	10 to 11	106	16
11 to 12	157	14	11 to 12	71	6



Paddle Craft Accidents 2005-2019

Year	Paddle Craft	Injuries	Fatals
2005	8	4	5
2006	6	0	5
2007	16	4	12
2008	11	10	10
2009	8	3	5
2010	17	8	11
2011	15	10	10
2012	10	8	4
2013	13	9	5
2014	15	8	9
2015	19	8	8
2016	16	16	6
2017	19	10	11
2018	19	13	8
2019	7	4	3

Paddlecraft: Rowboats, Canoes, Kayaks, Paddleboards and Crew Shells



Paddle Craft represent 2.0% of the total vessels involved in accidents for 2019.
This contributed to 27% of all fatalities.

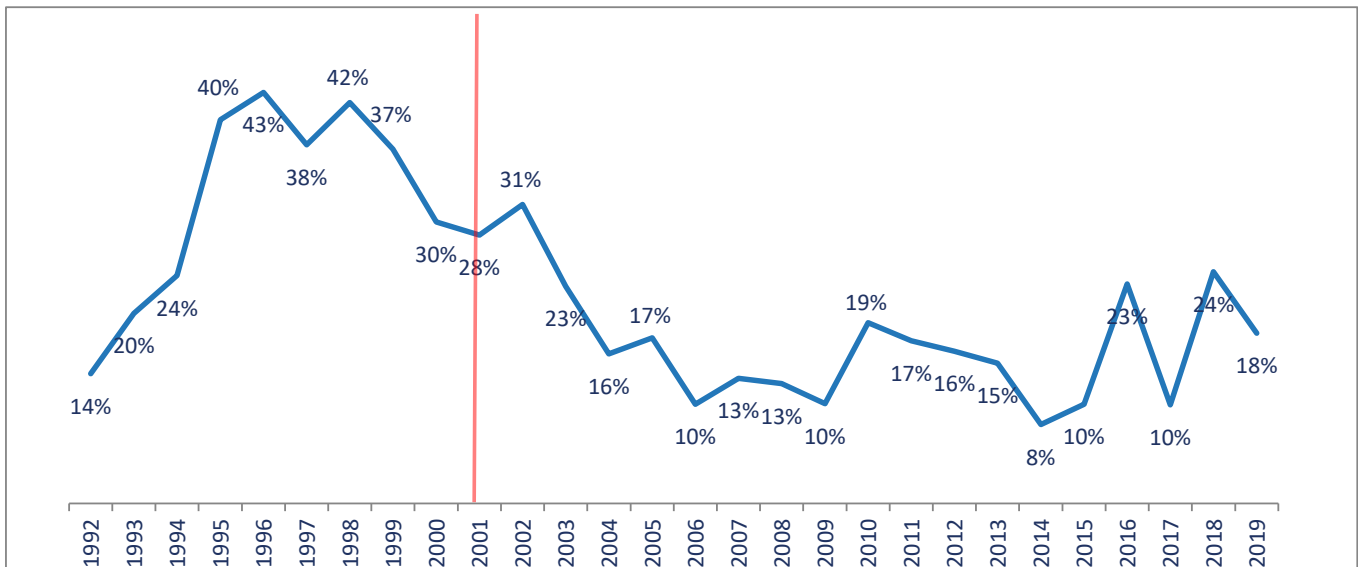
PWC Accidents

Year	# of PWC	Injuries	Fatalities
1992	31	1	21
1993	45	32	1
1994	53	33	3
1995	117	48	3
1996	140	62	2
1997	121	65	6
1998	137	66	3
1999	117	70	4
2000	85	35	1
2001	81	43	0
2002	89	47	2
2003	69	37	1
2004	32	17	1
2005	38	29	3
2006	19	16	1
2007	31	18	1
2008	27	21	0
2009	20	14	3
2010	46	25	1
2011	43	25	0
2012	51	25	3
2013	40	26	3
2014	23	16	1
2015	28	20	0
2016	66	43	0
2017	28	15	2
2018	67	41	6
2019	61	28	1



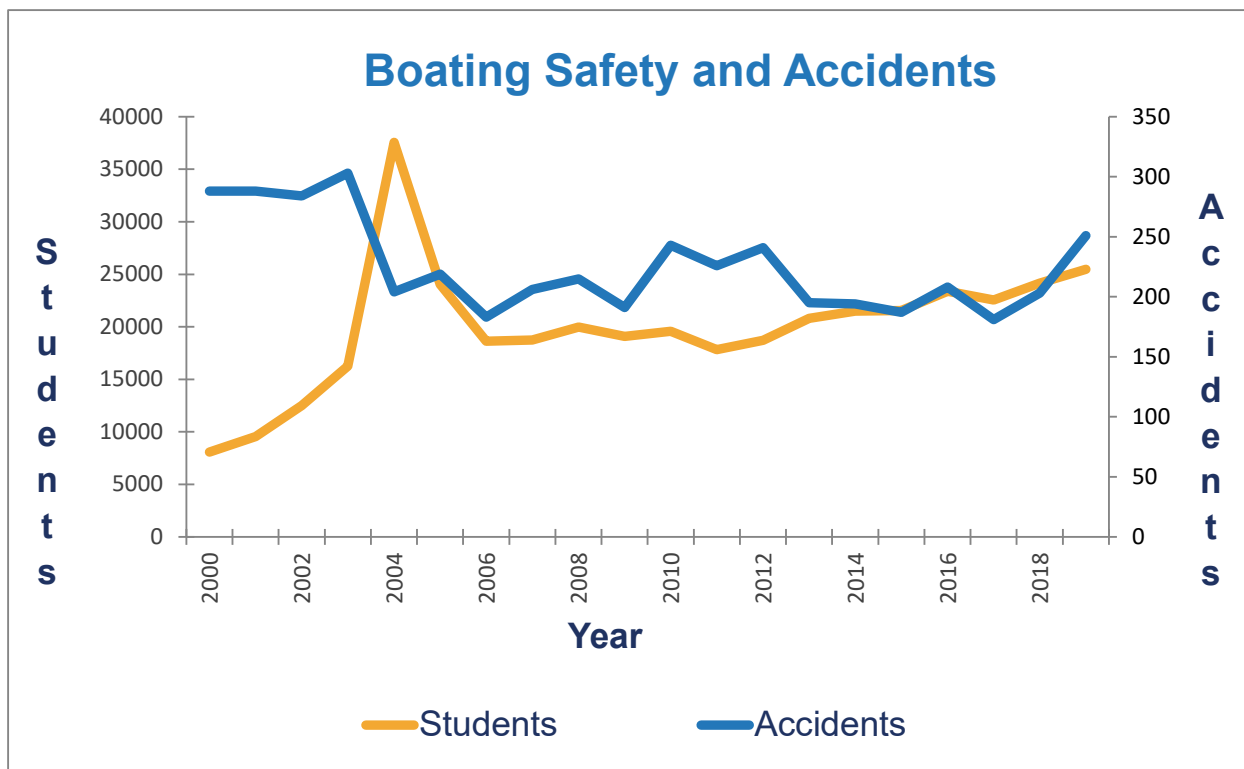
* Mandatory education for PWC operators begins

Percentage of PWC Vessels Involved in Accidents



Boating Safety Education History

Year	Students	Classroom Students	Online Students	Accidents
2000	8076	8076	XXX	288
2001	9558	9558	XXX	288
2002	12512	12512	XXX	284
2003	16260	16260	XXX	303
2004	37560	37560	XXX	204
2005	24044	24044	XXX	219
2006	18624	18624	XXX	183
2007	18738	18738	XXX	206
2008	19967	19967	XXX	215
2009	19093	19093	XXX	191
2010	19567	19567	XXX	243
2011	17826	17826	XXX	226
2012	18705	18705	XXX	241
2013	20806	20806	XXX	195
2014	21507	21507	XXX	194
2015	21559	12655	8904	187
2016	23373	8332	15041	208
2017	22540	7111	15429	181
2018	24168	6413	17755	203
2019	25467	5715	19752	251



Student Age

Age Group	Online	Classroom
Under 19	4912	2420
19 - 25	3760	426
26 - 35	3610	529
36 - 55	5418	1587
Over 55	2052	753

