Paddlesports Committee

Annual Report

2020-2021 Committee Charges, Membership, and Next Cycle Recommendations

August 18, 2021

Chair: Kim Jackson, Arizona

Vice Chair: Merri Walker, Massachusetts

NASBLA Paddlesports Committee Charter

Paddlesports Vision Statement

NASBLA's Paddlesports Committee provides a venue for a diverse group of stakeholders to engage with NASBLA members in productive dialogue to find actionable opportunities to partner and promote paddlesports while growing a culture of safety across the United States so that over time the incidence of accident and injuries declines even while participation increases. The Committee strives to develop recommendations and work products to the NASBLA membership based on the best data available and professional judgment of its diverse members.

Program recommendations will:

- *Advance the strategic plans of the National Recreational Boating Safety Program and NASBLA;*
- *Incorporate best practices and current research;*
- *Seek to mitigate risk factors, to grow a culture of paddling safety;*
- *Assure that the paddlesports community has the tools, information and messaging to reduce incidents, injuries and fatalities; and*
- *Connect the public, member organizations, and stakeholders with the products of the committee and others.*

Paddlesports Committee members are assembled into project teams, taking the lead on specific, assigned charges and monitoring activities.

2021 Annual Paddlesports Committee Meeting

The 2021 Paddlesports Committee Meeting held a virtual Committee kick-off meeting on November 2, 2020. Because of the COVID-19 pandemic, with projected travel restrictions, it was unclear if there would be any in-person meetings for this committee cycle. Committee members were able to collaborate and worked on their charges virtually and remotely throughout the year.

2020-2021 Committee Leadership:

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Ron Sarver	Staff	NASBLA	ron@nasbla.org	859-225-9487

This report provides a summary of committee deliverables and work products for the 2020-2021 Committee year.

PADDLE_2021-1 Data & Trends

Serve in an advisory capacity to NASBLA and the Association of Fish & Wildlife Agencies on their Paddlesports Assessment efforts exploring services for paddlers. Assist with re-submission of multistate grant: *Benefits to Sport Fish Restoration, R3 Opportunities, and the Associated Challenges and Needs Ahead project.* Due to the significant and sustained growth in paddlesports, states and territories are now spending significant resources on recreational boaters who use non-motorized boats. Explore alternative funding sources that state programs are incorporating which serve the paddling community and create a catalogue.
(NASBLA 2.1, 2.5)

Needs Statement: Paddlecraft activities are growing in popularity across the country, including in the area of sport fishing. We know little about these recreationalists, their decisions, current contributions to the Sport Fish Restoration and Boating Safety Trust Fund (Trust Fund), water awareness and education, and their public water access needs. We do know State agencies'

response requests to these recreationalists are increasing, as is the demand for more and differing types of public access sites among different recreationalists, in different locations, and for a variety of uses. The increasing paddlecraft activities may present a crossover strategy to help meet the R3 goal of recruiting 60 million angers in 60 months and grow revenue to the Trust Fund. The States are managing a growing number of paddlecraft users with traditional anglers and boaters while demands for various types of public access is increasing, safety issues are growing, and State have insufficient information to inform their actions to best meet the needs of the public. As the paddlesports community continues to grow, state programs need additional financial contributions from this recreational group to maintain and to carry on providing public safety.

Measure of Effectiveness: A comprehensive, qualitative, and quantitative, Paddlesports Assessment Report. This report can be used as a statistical summary, behavior analysis, and increased awareness of waterway management for State Program use. Information could be posted on the NASBLA Boating Safety Dashboard in order for State Programs to have analytics regarding multiple use waterways management content (use, views, and linkage).

Deliverable(s): The committees key points of discussion for this charge was the need of access to the AFWA, NMMA, and RBFF survey data along with State agencies data in regards to the safety response requests to paddlers and demand for public access. The hope being to establish baseline measures for safety awareness and user needs. Unfortunately, the multistate grant: *Benefits to Sport Fish restoration, R3 Opportunities, and the Associated Challenges and Need Ahead project* was not granted. As State Programs need additional financial contributions from the paddlesports recreational groups Charge One has developed a paddlesports assessment report. The information is quite extensive and will be a asset to continue the charge for the next committee cycle.

Next cycle recommendation: Continue this charge into the next cycle, but with revisions for the development of additional paddlesports dashboard screens to include analytics regarding national and state-specific content and alternative funding data (use, views, and linkage). The committee will also continue to provide recommendatioons and input on alternative funding and policy.

For additional information, see *Appendix A: PADDLE_2021-1 Data & Trends Final Report*

PADDLE_2021-1 Data & Trends Charge Leader: Craig Watson (OH)
2020 Charge Members: Virgil Chambers (Associate Member), David Dickerson (Associate Member), Robin Pope (Associate Member), Alexis Webb (Associate Member), Rob Sendak (WA), Grant Brown (CO), Josh Hoffman (AZ)

PADDLE_2021-2 Outreach to Paddlecraft Liveries & Retailers Best Practices

Create and distribute best practices for paddlecraft rental liveries, such as outreach, gear, staff training and boater education. Provide models for states to collaborate with paddlecraft dealers to advance educational opportunities. Develop relationships with conservation/outdoor groups to provide and cross premote boating safety messages, content, and resources. Develop methods to effectively provide these resources and messaging to a diverse (ex., entry level, non-motorized, demographically) boating community for a better boating experience.

(NASBLA 1.1, 1.4, 1.5, 2.1, 2.2, 2.3, 2.5,2.6) (RBS Initiative 1: CoA 1, CoA 2, CoA 3, Initiative 3)

Needs Statement: Paddlecraft rental liveries are one of the prime outlets to engage entry level, non-motorized boaters in safety awareness and risk mitigation for increased safe participation. Research shows that 75% of paddlesports incidents victims have less than 100 hours of experience and nearly 45% have less that 10 hours. Developing best practices for state boating safety professionals to use offers an opportunity to engage retailers and livery operators and further boating safety messages for this hard-to-reach population.

Measure of Effectiveness: Building on past momentum this charge has collaborated with the NASBLA Education Committee charge E&O 2021-1 *Advance National Campaigns.* Through relationships with conservation/outdoor groups we will provide and cross promote boating safety messages, content, and resources as a manager-training subject at the retailers spring manager meetings. Ensure boating safety professionals have access to source information and best practices to engage paddlecraft liveries and retailers in order to help them educate, and deliver boating safety information to their customers.

Deliverable(s): The members of Charge Two determined that in order to reach new paddlers required safety messaging at the point of sale (POS), before they even get out the door with their new paddlecraft. Through working relationships with partner organizations, we were able to engage with executives from Absolute Outdoor (AO), a Kent Sporting Goods life jacket manufacturer. They have relationships with most of the *no service retailers* who have capitalized on the recreational kayak/SUP explosion over the past few years. When asked how we could get retailers involved in the safety discussion, AO offered that they could get time at each retailer's Manager Training meetings. Manager Training meetings are usually held in the spring of each year by major retailers like Dick's Sporting Goods, Academy, Tractor Supply, Dunham's, and even Walmart. As producers of recreational life jackets, AO has relationships with most these retailers, but the only problem is that many meetings were postponed due to travel restrictions. There is hope that virtual meetings will prevail and we can offer a few slides for each meeting to inform the retailers about the importance of providing basic safety at point of sale, i.e. life jackets, leashes and paddler education to start. Jim Emmons (WSF) along with Brian Rehwinkel (FFCW) and Jeff Moag (WSF) created a power point that we will hold onto for when the manager training groups start holding meetings again, which have been postponed due to the pandemic. In the meantime, a combined social media and advertising campaign with a simple, unified message has begun to take shape. The idea is to create a template of social media and safety advertising in which liveries/retailers and others in the industry are able to drop in their own logo, use or cross-promote on social media. Working with the Water Solutions Group, a 501 (c) (3) non-profit organization, we will utilize their email list and many other contacts to reach as many paddlesports liveries and end users as possible.

For additional information, see *Appendix B: PADDLE_2021-2 Outreach to Paddlecraft Liveries and Retailers Final Report.*

Next cycle recommendations: Carry over into the next cycle. Paddlesports communities are needed to facilitate conversations to improve safety and opportunities for collaboration. Communication barriers have been greatly reduced by working with new partnerships gained during this committee work cycle.

PADDLE_2021-2 Outreach to Paddlecraft Liveries & Retailers Best Practices: Charge Leader: Lisa Dugan (MN)

Charge Members: Wendy Flynn (CT), Annie Grenier (AK), Alec Walter (AK), Melissa Miranda (CA), Jennifer McGee (FL), Chelsea Hoffmeier (KS), Jim Emmons (Associate Member), Emily King (Associate Member), COMO Carolyn Belmore (Associate Member), Melanie Bedogne (Associate Member), Tom Dardis (USCG), Scott MacGregor (Associate Member), Sigrid Pilgrim (Associate Member)

PADDLE_2021-3 Paddlecraft Access Inventory

Create an inventory of available databases and resources regarding access to waterways for paddlecraft. (NASBLA 2.3)

Needs Statement: As paddling becomes increasingly popular, waterways and access points can become more crowded. To help paddlers enjoy their boating experiences and to decrease potential user conflicts there is a need for more awareness of access to waterways for paddling.

Measure of Effectiveness: Improved communication and collaboration between the Paddlesports community and the states via the Paddling Resources Dashboard. Affective strategies to accomplish this goal while creating a coalition of supporters from all sides of the issue and creating, where possible, a consensus proposal.

Deliverable(s): The primary information gathered for Charge Three was for the state boating staff and others to recommend places for people to appropriately access the waterways with their canoe, kayak, or paddleboard so they could have a safe and enjoyable experience. Under the leadership of charge leader Virgil Chambers, the charge has turned out to be an excellent resource for anyone wanting to paddle. The data gathered gives suggested water trails and float trip destinations. In the form of a state map, this is a reference of trips to match with the paddler's skill and experience. The results of Charge Three are incorporated into the Paddling Resource Dashboard posted on the NASBLA website (please see link below). The NASBLA Paddling Resource Dashboard has in addition to water trails and float trip destinations, a link to the National River Project, which is an excellent database of geospatial portfolio of information on Wild & Scenic Rivers, whitewater rivers, access points and campgrounds within the United States all for the paddler, which was developed by the River Management Society. The Dashboard also includes a series of paddlesports safety video clips and a link to a collection of Rental Operations, Liveries and Outfitters, provided by Rental Boat Safety. We hope to include a crowd-sourcing component that will keep this valuable resource accurate and current with the ever-changing information on where to paddle and how to do it safely.

For additional information, please visit the Paddling Resources Dashboard:
https://idash.nasbla.net/idashboards/viewer/?guestuser=guest&dashID=152&c=0&NRD=True

Next cycle recommendation: This charge is completed, however the charge or more accurately the Paddling Resource Dashboard should be a continuing charge to keep accurate and up-to-date information flowing. Possibly as a NASBLA Paddlesports Standing Charge.

PADDLE_2021-3 Paddlecraft Access Inventory: Charge Leader: Virgil Chambers (Associate Member)
Charge Members: Trey Cooksey (Associate Member), Nick Duhe (NV), Craig Watson (OH), Jennifer McGee (FL)

PADDLE_2021-4 Microlearning

Develop microlearning training to help facilitate opportunities for officers, educators and administrators to engage the paddling community.
(NASBLA 2.6) (RBS Initiative 1)

Needs Statement: Officers, educators and administrators need new and innovative strategies to help facilitate opportunities to engage the paddling community. Microlearning components can quickly give these professionals the information and tools they need to effectively engage this growing boating community.

Measure of Effectiveness: Developing several microlearning-training modules for professional development to help facilitate opportunities for officers, educators, and administrators.

Deliverable(s): Creating new and innovative professional development strategies was at the forefront of this charge. Charge leader Annie Grenier gave her team the green light in producing several different venues for microlearning. The committee members of this exciting charge decided to create a sample script for law enforcement agencies to use in the production of their own microlearning video for training officers on how to assist in a paddlesports rescue. The charge members decided it would be best to use a script that was already developed to be used by all departments nationwide. With this method, there is less work for individual agencies; however, it allows agencies to include local environmental considerations, agency specific policies, and local regulations. The best practices used in the creation of the script are based on a document provided by Craig Watson that was developed by the Ohio Department of Natural Resources. Connecticut's Department of Energy and Environmental Protection produced a sample video using the suggested script and following the recommended guidelines for a two-officer paddlecraft rescue. Arizona's Department of Game and Fish produced a sample video using the suggested script and following recommended guidelines for a single officer for a paddlecraft rescue. The training video teaches Law Enforcement Officers how to assist an overturned paddlecraft, assess the paddler's ability to continue, and right the paddlecraft from their powerboat. Committee members have also discussed creating a microlearning video for LE officers that teaches some paddling terminology and differences between paddle craft and powerboats that officers could use as a resource. The ultimate goal is to help LE agencies to develop a series of short videos that would be available to officers to watch as they have the opportunity and to be able to quickly reference as needed. Charge Four has successfully completed all of their goals for this committee cycle. If there are other videos that NASBLA or the Law Enforcement community would find beneficial, this charge should continue.

For additional information, see *Appendix C: PADDLE_2021-4 Microlearning Final Report.*

Next cycle recommendation: This charge should carry over into the next cycle, committee members have discussed creating a microlearning video that teaches some paddling terminology and differences between paddle craft and powerboats that officers could use as a resource. Members would also like to produce additional videos directed toward paddlecraft. This project will likely only happen if this charge is allowed to continue.

PADDLE_2021-4 Microlearning: Charge Leader: Annie Grenier (AK)
Charge Members: Wendy Flynn (CT), Nick Duhe (NV), Josh Hoffman (AZ), Merri Walker (MA), Kim Jackson (AZ)

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Paddlesports Committee

Annual Report

2020-2021 Committee Charges, Membership, and Next Cycle Recommendations August 13, 2021

Chair: Kim Jackson, Arizona

Vice Chair: Merri Walker, Massachusetts

Appendices

- Appendix A: 2021 NASBLA_2021-1 Data & Trends, WSU Boat Report for Washington Recreational Boating Accident Statistics
- Appendix B: 2021 PADDLE_2021-2 Outreach to Paddlecraft Liveries & Retailers Best Practices, Retail Paddlesports Safety PowerPoint
- Appendix C: 2020 PADDLE_2020-4 Microlearning, Resource Documents
- Appendix C1: 2021 PADDLE_2020-4 Microlearning, Video Training Links

Appendices:

- Appendix A: 2021 NASBLA_2021-1 Data & Trends, WSU Boat Report for Washington Recreational Boating Accident Statistics

- Appendix B: 2021 PADDLE_2021-2 Outreach to Paddlecraft Liveries & Retailers Best Practices, Retail Paddlesports Safety PowerPoint

- Appendix C: 2020 PADDLE_2020-4 Microlearning, Resource Documents

- Appendix C1: 2021 PADDLE_2020-4 Microlearning, Video Training Links

Paddlesports Committee Recommendations for 2021 – 2022 Charges

- Develop additional Paddlesports dashboards to include analytics regarding national and state-specific content and alternative funding data
- Create and distribute products and models in concert with liveries, retailers and the paddlesports community
- Change to a Standing Charge to continue an inventory of available databases and resources regarding access to waterways for paddlecraft.
- Continue to develop micro-learning training to help facilitate opportunities for officers, educators and administrators to engage the paddling community.

Appendix A: PADDLE 2021-1 Data & Trends, WSU Boat Report, Washington Recreational Boating Accident Statistics

2021

Washington Recreational Boating Accident Statistics

State of Washington
Washington Parks and Recreation

Washington State Parks
Boating Program

www.goboatingwa.com
1-360-902-8555

Report prepared by: Azdren Coma (Azdren.coma@wsu.edu) and Seon Yup Lee (seonyup.lee@wsu.edu). 08/15/2021

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Glossary of key terms

To produce statistically significant results, vessel types were categorized into four distinct categories. In cases when categorization was difficult, such as with inflatables, we used other variables to categorize these vessels such as whether the vessel had a motor onboard, or the motor horsepower. Below we list which vessel types fall under each category. These are the vessel type descriptions as written in the accident reports:

MOTORIZED: Gill-Netter, Open Motorboat, 135 ft Longliner Tulalip Tribal Almar Barge Barge/Dredge Bayliner CG Cutter Cabin Motorboat (Commercial) Cabin Motorboat / Commercial Vessel Catamaran Commercial Commercial Barge Commercial Bow Picker Commercial Bow Reeler Commercial Charter Commercial Fishing Vessel Commercial Tractor Tug Commercial Tug Commercial Vessel (Navy Ship) Crab boat Drift boat Electric Ferry Sealth Fishing Trawler Fishing Vessel Flat Bottom Boat Gas Powered Boat Homemade Hydroplane Homemade Race Boat Hydroplane Style/Homebuilt JCFR Boat Johboat, flat-bottom LSPD Vehicle Mooring Barge Open Motorboat Open Tribal Vessel Open Motorboat / Commercial Open motorboat Police Boat Power Driven Vessel Racing Scull Raft Rigid Hull Inflatable Runabout Salmon Troller Sea Swirl Ski Boat Soft Top Fishing Boat Tug Tug & Barge Tug Boat Tug and barge Yacht Zenith ski boat

PWC: PWC Jet Boat Jet boat PWC Personal watercraft Wave Runner Waveski

MOTO – SLOW: Cabin Motorboat Residences Cabin Motorboat Cabin motorboat Convert Fishing Boat/Live-On Dock only - No Boat Houseboat Osprey Pontoon Boat

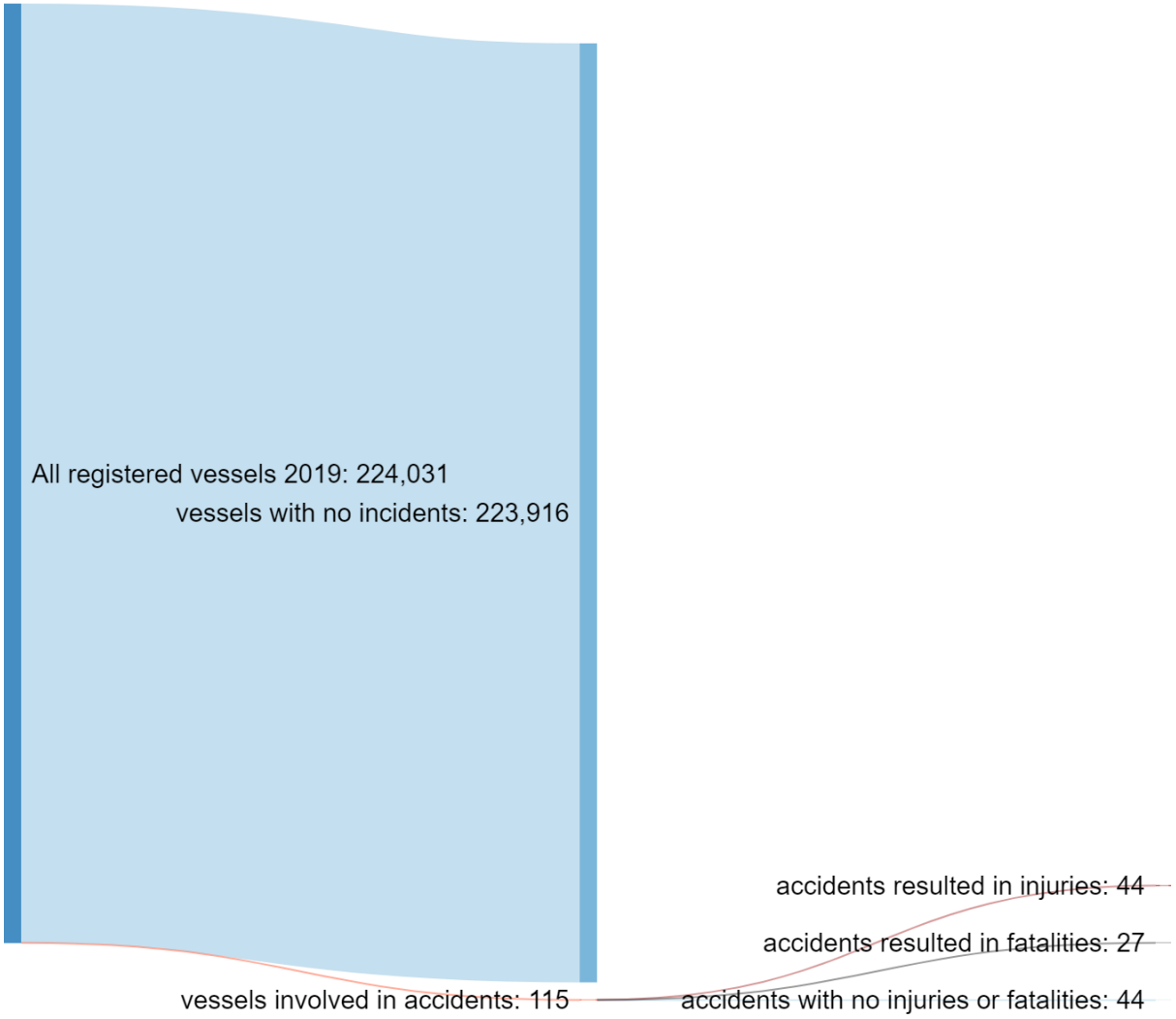
HUMAN/WIND: Rowboat Sailing Skiff Kayaks Man Kayak Sailboats Oared Rowing Shell Canoe Drift Boat Driftboat Fisherman's Float Tube Fishing Float Tube Inflatable Inflatable Kayak Inflatable Pool Toy Inflatable Raft Inflatable Rowboat Inflatable Rubber Raft Inflatable boat Inflateable Kayak Inflateable Raft Inlfatable Inner Tube Jon Boat Kayak Kayak Kayaks Kite Board Kite-Powered Kayak Paddle boat Paddleboat Pedal Pedal Boat Pedal boat Raft Rigid Hull Inflatable Patrol V Rowboat Rowing Scull Rowing Shell Sail only Sail Single Scull Shell Skiff Small Aluminum Boat Small Sailboat Stand Up Paddleboard Stand-Up Paddle Board Standup Paddleboard Tribal Fishing Vessel Wooden Sailboat driftboat rowing shell

Similarly, we categorized various waterbodies to produce viable statistical results. Below is the list of which type of bodies of water were placed in each category:

Saltwater: Harbor, Port, Strait, Bay, Puget Sound, Tacoma Narrows, Marina, Channel, Inlet, Canal, Pacific Ocean, Pass, Passage, Beach, Cove, Island,

Freshwater: Lake, Reservoir, Pond

Rivers: River



A total of 223,916 boating vessels were registered in the State of Washington in 2019. There were 115 accident reports generated. Of the accident reports files, 44 accidents did not result in any injuries or fatalities. Of the remaining accident reports, there were 44 accidents that resulted in injuries, and 27 accidents that resulted in fatalities.

YEAR	registered vessels	accidents	Accident %	injuries	Injuries %	fatalities	Fatalities %
2004	266,056	161	0.06051	68	0.02556	19	0.00714
2005	267,793	165	0.06161	55	0.02054	23	0.00859
2006	270,627	141	0.05210	41	0.01515	24	0.00887
2007	270,789	134	0.04949	55	0.02031	17	0.00628
2008	264,393	91	0.03442	46	0.01740	14	0.00530
2009	269,845	115	0.04262	38	0.01408	14	0.00519
2010	239,594	84	0.03506	23	0.00960	11	0.00459
2011	235,143	99	0.04210	36	0.01531	13	0.00553
2012	235,564	118	0.05009	44	0.01868	26	0.01104
2013	230,015	96	0.04174	38	0.01652	16	0.00696
2014	228,334	126	0.05518	52	0.02277	21	0.00920
2015	234,195	110	0.04697	45	0.01921	27	0.01153
2016	225,004	106	0.04711	48	0.02133	18	0.00800
2017	225,732	117	0.05183	50	0.02215	15	0.00665
2018	222,938	104	0.04665	43	0.01929	19	0.00852
2019	223,916	115	0.05136	44	0.01965	27	0.01206

The proportion of vessels reporting accidents in any given year ranges from a low of 0.035% (2010) to a high of 0.061% (2004). The number of injuries also trend similarly, with the lowest proportion recorded in 2010 and the highest in 2014. However, the year 2019 showed the highest proportion of fatalities per accident report generated of any year, recording 0.012% (or 12 in 100,000 registered vessels were involved in a fatal accident). We were unable to obtain data on the number of registered vessels prior to 2003.

2021 EXECUTIVE SUMMARY

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- The proportion of vessels reporting accidents in any given year ranges from a low of 0.035% of all registered vessels reporting an accident (2010) to a high of 0.061% (2004). The number of injuries also trend similarly, with the lowest proportion recorded in 2010 and the highest in 2014. However, the year 2019 showed the highest proportion of fatalities per accident report generated of any year, recording 0.012% (or 12 in 100,000 registered vessels were involved in a fatal accident).
- The total number of injuries has declined less rapidly, and the total number of fatalities over the years has remained relatively stable.
- The total number of reported accidents before 2008 seems overall greater than the number of accidents after 2008. Whereas the total number of reported accidents has declined over the years, the proportion of injuries and fatalities has continued to rise.
- The number of injuries and fatalities of all reported accidents has grown as a proportion between 2000 and 2019.
- Of registered vessels that were involved in accidents, 39.2% had boater education cards. Among registered vessels with 15 horsepower or more and have been involved in accidents, 41.6% had boater education cards. For vessels with 15 horsepower or more that have been involved in accidents that have led to injuries, 33.8% of vessels had boater education cards. 41.5% of vessels with 15 horsepower or more that have been involved in accidents that have led to fatalities had boater education cards.
- Drowning deaths as a proportion of all deaths has continued to grow from 2000 to 2019. While drownings accounted for 54% of all deaths in 2006, the proportion of drowning deaths in 2019 was 74%.
- Drowning deaths as a proportion of all deaths has continued to grow from 2000 to 2019. Most fatalities are due to drownings. Furthermore, most fatalities by drowning were not wearing PFDs.
- The proportion of fatalities that were drownings has grown from 2000 to 2019, and the majority of drowning fatalities were on vessels that are less than 16 feet long. There were no drowning fatalities reported for vessels 65 feet or greater.
- The proportion of drowning attributed to motorized and human/wind powered vessels has continued to grow as a proportion of all fatalities.
- The proportion of accidents that involve drownings has risen over the years. Noteworthy are two types of accident types: capsizing and fall overboard/ejected. These two types of accident types make up the majority of accidents leading to drownings.
- The means and ranges of years for all fatalities and for drowning fatalities trend in a similar way, given that the majority of fatalities are drowning fatalities. The youngest fatality was in 2008, aged zero, while the oldest fatalities were 87, in 2005 and 2013. The mean fatality age has risen from about 40 years in the early 2000's, to about 45 in more recent years. Data for drownings prior to 2002 was not available.

- For all fatalities, the environmental conditions were mostly clear. Furthermore, the wind speeds during the majority of drownings were categorized as being between zero and up to 6mph.
- Fatalities were distributed roughly equally across rivers, freshwater, and saltwater. Rivers had the highest proportion of drownings, as a proportion of all fatalities, whereas saltwater had the lowest proportion of drownings.
- Fishing was the activity that contributed to the majority of boating drownings between 2000 and 2019. Where data exists, the next most common contributing factor to boating drownings was whitewater recreational activities.
- Of victims who drowned while fishing, where data is known, 45% of vessels were Open Motorboats, 22% were Rowboats, 9% were Inflatable vessels, 7% were Cabin Motorboats, and another 7% were Kayaks, 4% were Canoes, 1% were Personal Watercrafts, and another 1% were Pontoons, and the rest were unknown (2%).
- Of the Open Motorboat drownings, 48% were due to Operation of Vessels (half of those were Alcohol Related), 15% due to Loading of Passengers or Gear, 15% due to the Environment, 4% due to Failure of Boat or Boat Equipment, and 19% due to Miscellaneous reasons.
- The majority of human/wind-powered vessel fatalities were due to drownings.
- Human/wind-powered vessels contributed to the greatest number of fatalities. The second highest contributing vessel type is Motorized.
- From 2002 (the latest year with data on type of vessel), the proportion of fatalities attributed to motorized vessels has declined. On the other hand, the proportion of fatalities attributed to human/wind powered vessels has increased.
- Human/wind powered vessels are associated with the greatest number of fatalities of any vessel category. On the other hand, the number of fatalities associated with the other vessel categories has remained about the same.
- The leading cause of accidents is operation of vessels (60% of all accidents). This single category was further broken down to show that 21% of those accidents involved operator inattention. A further 19% involved operator inexperience. Whereas alcohol use was associated with 16% of accidents attributed to operation of vessels. In other words, Alcohol use was attributed to 9.8% of all reported accidents.
- The majority of accidents in the past 20 years were collisions. Among collisions, the majority were motorized vessels of all types. Although there are some key distinctions among vessel types. Motorized vessels were mostly involved in accident that were collisions, capsizing, flooding/swamping, and groundings. Personal watercraft involved in accidents were mainly collisions. Slower motorized vessels were involved in accidents that were collisions, fire/explosions, and groundings. Whereas Human/wind-powered vessels were mostly involved in capsizing accidents, collisions, and instances when someone fell on the vessel.
- Capsizing accidents are most common with human/wind-powered vessels. Whereas collisions are common among all categories, they mostly involve motorized vessels. Fire/explosions are most common among the moto-slow category (pontoons, houseboats, etc.).
- 12 drownings occurred in 2019 on human/wind-powered vessels, and this is 44% of the 27 total fatalities for 2019.
- Personal watercraft (MOTO-PWC) were least involved in drowning fatalities, of all vessel types. There have been only two drownings in the past 10 years on personal watercraft.
- The proportion of fatalities that were due to drownings has risen over the past twenty years.

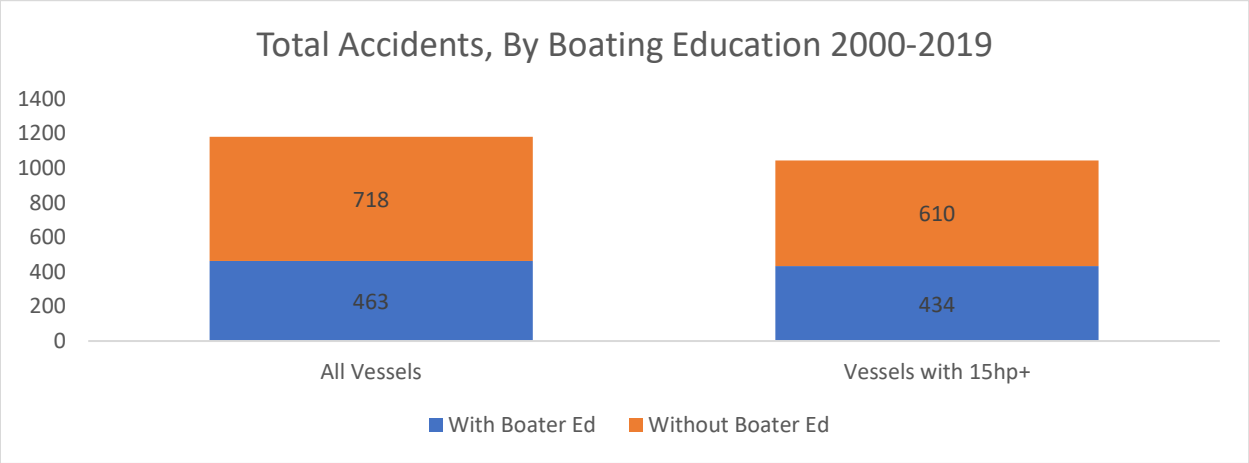
- Fatalities have grown for kayaks between 2002 and 2019, while fatalities for canoes have a declining trend. 2019, the latest year with data, shows the higher number of fatalities for standup-paddleboard of any year, with four fatalities. On the other hand, reported cases of fatalities have remained relatively constant for rowboat and inflatable vessels.
- In 2003, 2012, and 2016, highest number of fatalities of all human/wind powered vessels took place on inflatable vessels. In 2002, 2005, 2006, 2007, and 2009, highest number of fatalities of all human/wind powered vessels took place on canoes. Whereas in 2015, 2017, 2018, and 2019, highest number of fatalities of all human/wind powered vessels took place on kayaks.
- The majority of human/wind powered fatalities in the past 20 years were caused by problems with the operation of vessel. Other factors such as loading of passengers or gear, failure of boat or equipment, or environmental factors were not significant causes of accidents for human/wind powered vessels.
- The highest number of reported accidents took place in July, with 664 accidents taking place in July between 2000 and 2019. December had the fewest number of reported accidents.
- Saturdays and Sundays had the highest number of reported accidents, whereas Tuesday had the lowest number of reported accidents over the past 20 years.
- This graph shows that the majority of reported accidents took place between 1pm and 8pm, with the peak between 3pm and 4pm and the accident rates begin to decline after 7pm.
- Over half of all reported accidents from 2000 to 2019 were collisions and capsizing.
- Most accidents were caused by the operation of vessel, and among those were mostly of Motorized vessels. Loading of Passengers were causes of accidents mainly for motorized vessels and with human/wind-powered vessels. Failure of Boat were causes of accidents for motorized vessels and for slower motorized vessels (houseboats, pontoons, etc.). Environmental factors contributed to accidents for motorized, slower motorized vessels, and human/wind powered vessels.
- The mean age of operator involved in an accident was 42.27 years. Half of all accidents involved operators aged between 28 and 54 years.
- Alcohol or drugs were the primary accident cause in 9.71% of accidents. Note that primary accident cause was unknown for 6.58% of accidents not involving fatalities, and 13.08% of accidents involving fatalities. Furthermore, the proportion of alcohol/drug use as the primary cause rose to 22.74% for accidents that led to fatalities.
- The month with the highest recorded number of fatalities between 2000 and 2019 was July. Even though May has a lower number of accidents than June, the number of fatalities in May is higher than in June. November and December had the lowest number of fatalities of any month.
- The weekends saw an uptick of accidents involving fatalities, with Saturday being the most common day with an accident resulting in a fatality. Monday was the least common day with fatalities, even though Tuesday had fewer accidents than any other day.
- The highest number of fatalities have occurred between 3 and 4pm, with the majority of fatalities taking place between 11am and 8pm.
- The two most frequent categories of accident types are falling overboard/ejections and capsizing, with 107 and 106 total fatalities respectively. Collisions and flooding are the next two frequent accident types, with 29 and 19 fatalities respectively.
- Operation of vessel was the leading cause of fatalities, with 182 fatalities. A further breakdown of the fatalities caused by failures with the operation of vessel shows that 40% of those fatalities

were caused by Alcohol use, 20% were caused by issues navigating hazardous waters, and 21% were caused by Operator Inexperience. A further 10% was caused by Operator Inattention.

- The most common vessel category to result in fatalities over the past 20 years were human/wind powered vessels, followed by motorized vessels, slower motorized vessels, and PWCs.
- The greatest number of fatalities involve vessels less than 16 foot long, followed by vessels of length between 16 and 25 feet. Vessels between 25 and 40 feet have fewer fatalities, whereas vessels between 40 and 65 feet the fewest registered fatalities. Vessels over 65 feet have no reported cases of fatalities.
- Fatalities between 2000 and 2019 are almost equally distributed among all waterbody categories, with fatalities in freshwater being slightly more frequent than in saltwater or rivers, with 133 versus 103 and 99 respectively.
- King county has the highest number of fatalities between 2000 and 2019. The lowest number of fatalities among the top ten were in San Juan and Skagit counties, with 7 and 9 fatalities respectively. It is noteworthy that Clallam County – which has the eighth most accidents – is tied with the counties with the third most fatalities. While King County has the most accidents of any county, Chelan County has the most accidents with Personal Watercraft (PWC). The longest average vessel length for vessels involved in accidents were found in San Juan County, with an average length of 33 feet, whereas Chelan County had the shortest average, with an average length of 14 feet. The highest average total damages were in Clallam County, with average total damages of $21,093.
- Across the top ten counties, operation of vessel is the most common cause of accidents. The highest number of accidents that were caused by the operation of vessel were in King County, followed by Snohomish and Pierce counties.
- A logistic regression was conducted to predict fatalities of reported accidents (see the Appendix 1 for the regression table). The predicting variables are year; whether alcohol or drugs were involved; the vessel type; vessel length; the age of the vessel operator; the sex of vessel operator; the number on board of the vessel; the estimated speed of the vessel; and whether the vessel was rented.
- The regression shows that the year of the accident is a significant predictor of accident deaths. For each year after 2000, the probability of a death from an accident increases by 3.4%, holding constant for all other variables.
- The presence of alcohol or drugs is a statistically significant predictor of accident deaths, where the presence indicated an increased risk of about 355% compared to no alcohol or drugs present, holding constant for all other variables.
- When we look at vessel types, we can see that compared to open motorboats, Personal Watercrafts (PWC's) are 91% less likely to be involved in a fatal accident, holding constant all other variables. Slower vessels (such as boat homes or pontoons) show no statistical differences for predicting fatalities compared to open motorboats. Whereas, human or wind powered vessels show a 92.3% increase in probabilities of accident fatalities compared to open motorboats, holding all other variables constant.
- Compared to vessels less than 16 feet long, all other vessels show a statistically significant decline in probabilities of accident deaths, with significant drops in probabilities the longer the vessel.

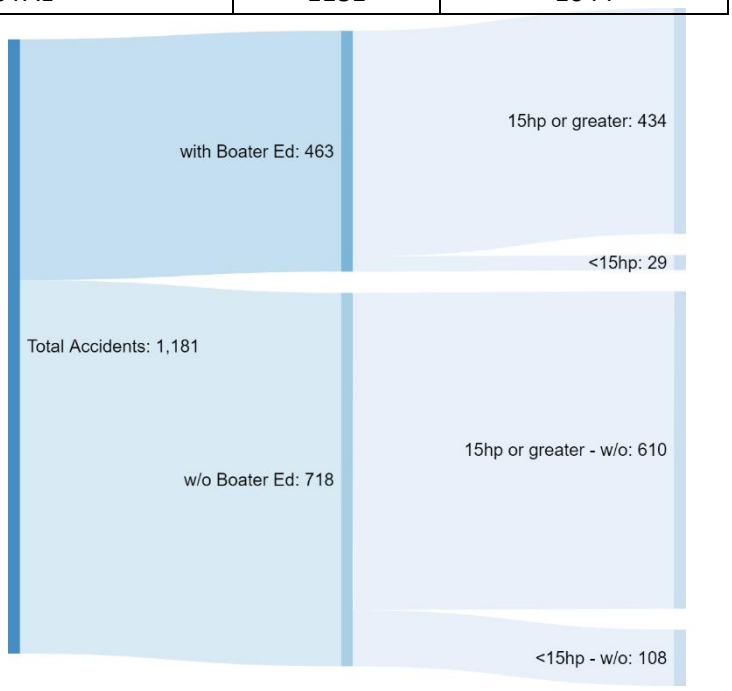
- The operator age is a statistically significant predictor of accident deaths, showing that for each additional year of age of the operator, the probability of accident deaths increases by 1.6%, holding all other variables constant.
- Operator sex is not a statistically significant predictor of accident deaths among reported accidents, showing that statistically no differences between males and females can be inferred, holding constant all other variables.
- The number of people on board a vessel is a statistically significant predictor of accident deaths, showing a 12% decline in the probability of an accident leading to a death for each additional person onboard the vessel, holding constant for all other variables.
- Compared to stationary vessels, vessels that are moving between 11 and 20 mph have a 63% lower probability of accidental deaths. Furthermore, vessels travelling between 41 and 60 mph have an increase probability of 748% compared to stationary vessels, holding all other variables constant.
- Finally, if a vessel is rented, it is 75% less likely to be involved in a fatal accident compared to a vessel that is not rented, holding constant for all other variables.

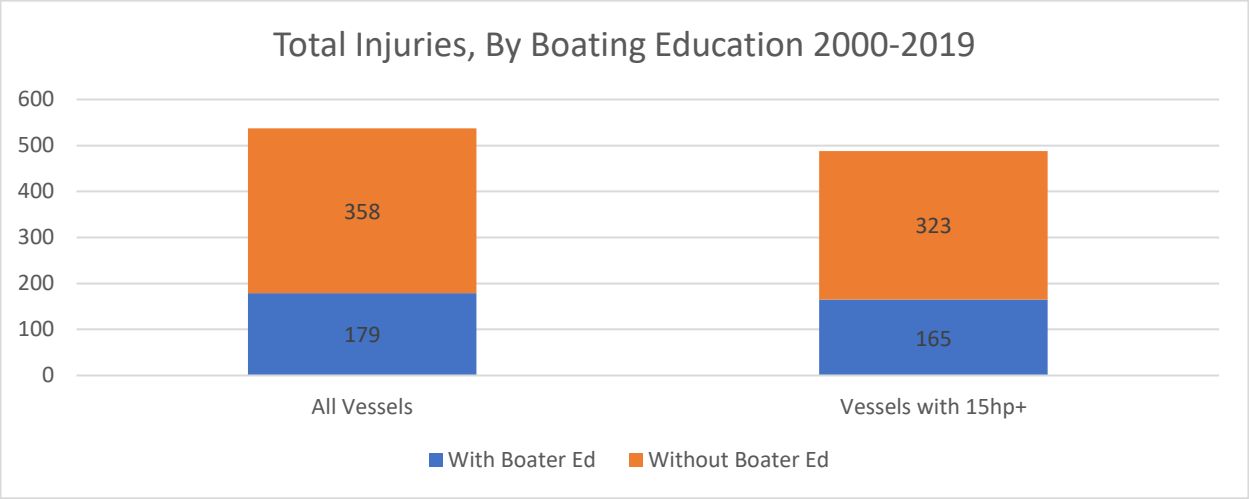
Section 1. Overview of Accidents, Injuries, Fatalities, by Boater Ed.



The left bar in the graph above demonstrates the total number of reported accidents for all vessels, with and without boater education cards. Of registered vessels that were involved in accidents, 39.2% had boater education cards. On the other hand, the right bar shows the number of reported accidents for vessels with 15 horsepower or more. Among registered vessels with 15 horsepower or more and have been involved in accidents, 41.6% had boater education cards

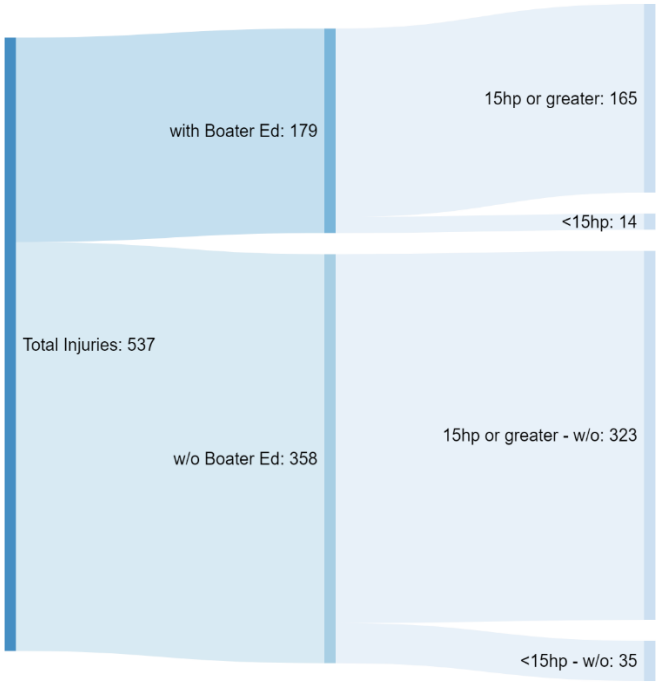
ACCIDENTS	All Vessels	Vessels with 15hp+
With Boater Ed	463	434
Without Boater Ed	718	610
TOTAL	1181	1044

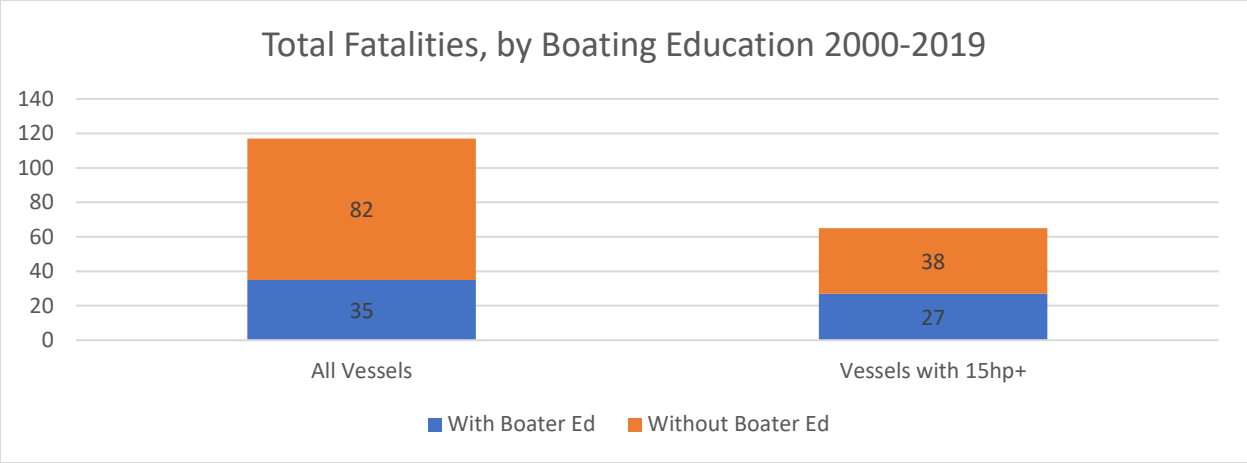




This graph demonstrates the number of vessels involved in accidents that resulted in injuries, with and without boater education cards. The left bar shows the number of vessels involved in accidents that resulted in injuries for all vessels. The right bar shows the number of vessels involved in accidents that resulted in injuries for vessels with 15 horsepower of more, with and without boater education cards. For vessels with 15 horsepower or more that have been involved in accidents that have led to injuries, 33.8% of vessels had boater education cards.

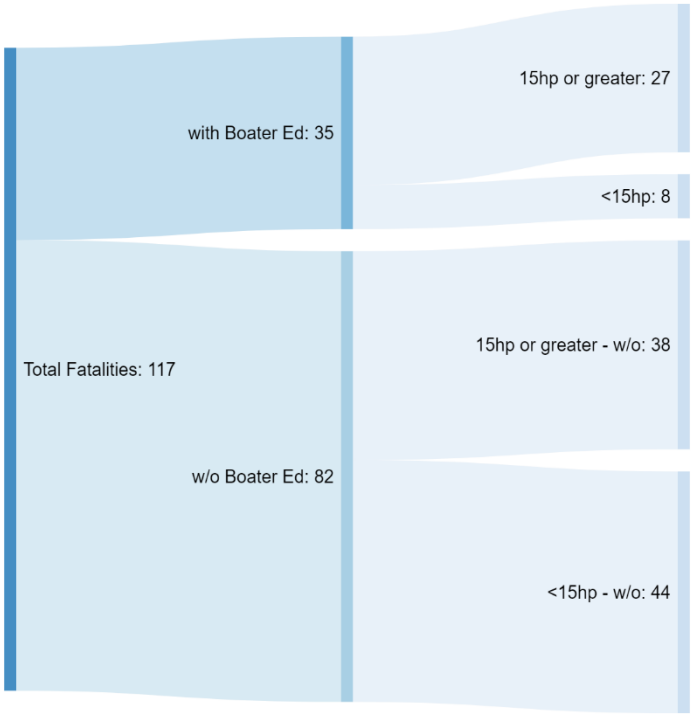
INJURIES	All Vessels	Vessels with 15hp+
With Boater Ed	179	165
Without Boater Ed	358	323
TOTAL	537	488



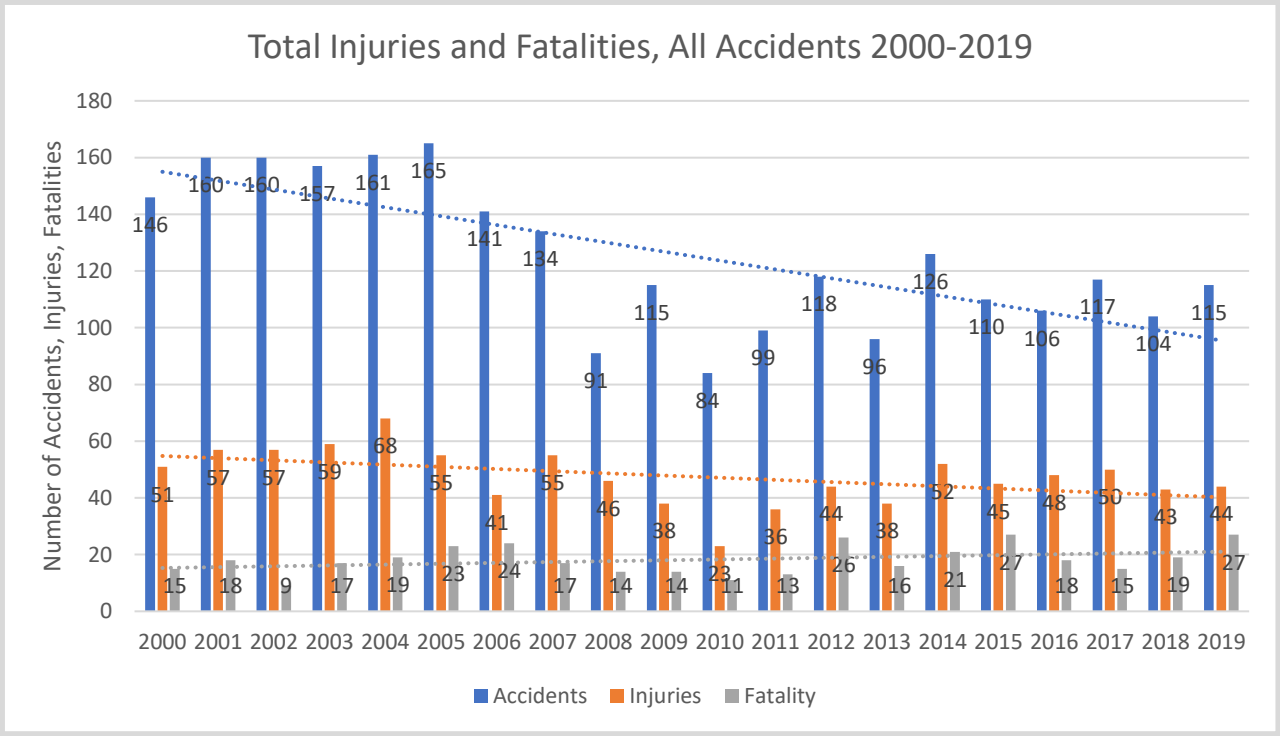


This graph demonstrates the number of vessels involved in accidents that resulted in fatalities, with and without boater education cards. The left bar shows the number of vessels involved in accidents that resulted in fatalities for all vessels. The right bar shows the number of vessels involved in accidents that resulted in fatalities for vessels with 15 horsepower of more, with and without boater education cards. 41.5% of vessels with 15 horsepower or more that have been involved in accidents that have led to fatalities had boater education cards.

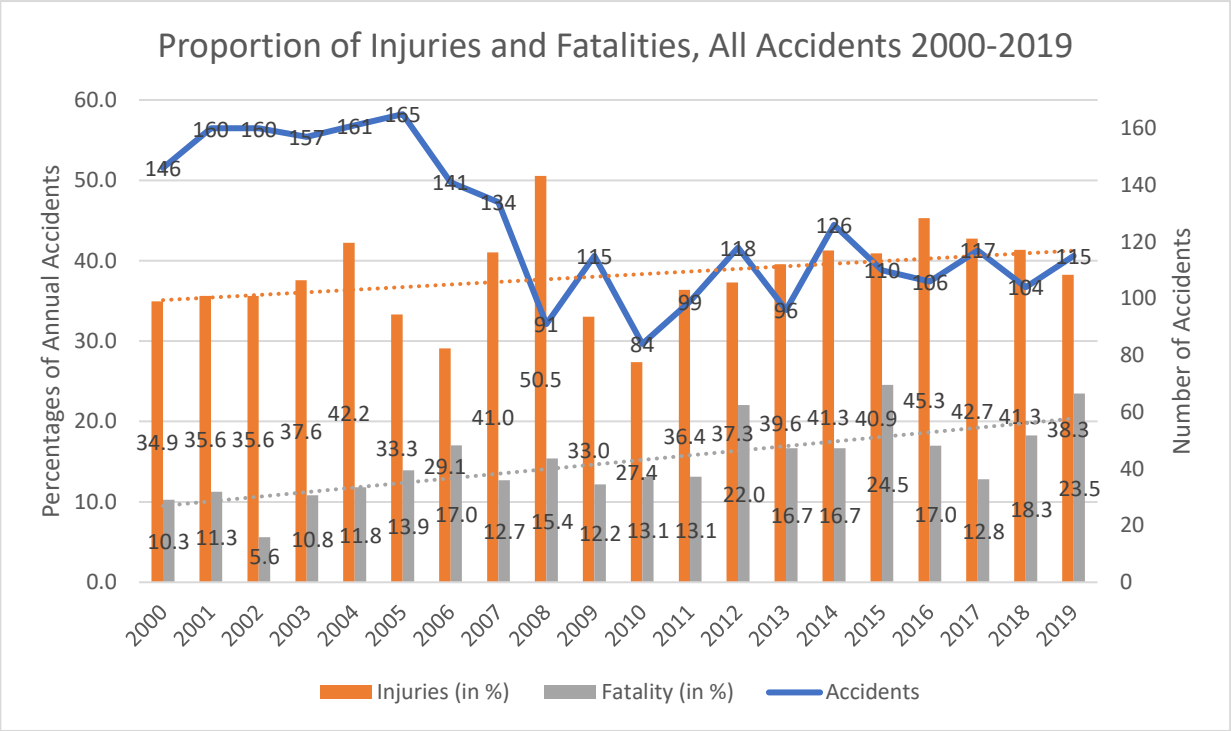
FATALITIES	All Vessels	Vessels with 15hp+
With Boater Ed	35	27
Without Boater Ed	82	38
TOTAL	117	65



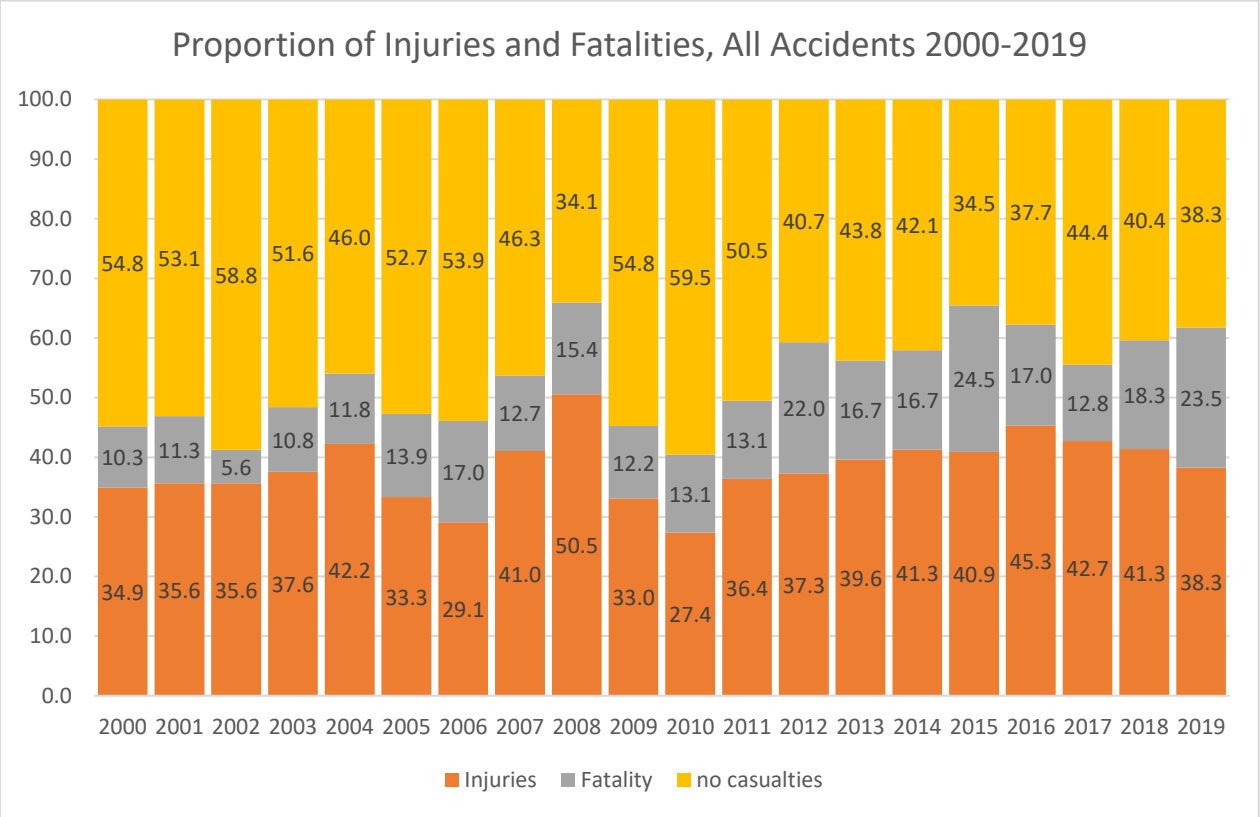
Section 2. Trends of Accidents, Injuries, and Fatalities



This graph demonstrates the total number of reported accidents, injuries, and fatalities, per year from 2000 to 2019. Trend lines suggest that while the total number of injuries appears to decline, the total number of injuries has declined less rapidly, and the total number of fatalities over the years has remained relatively stable.



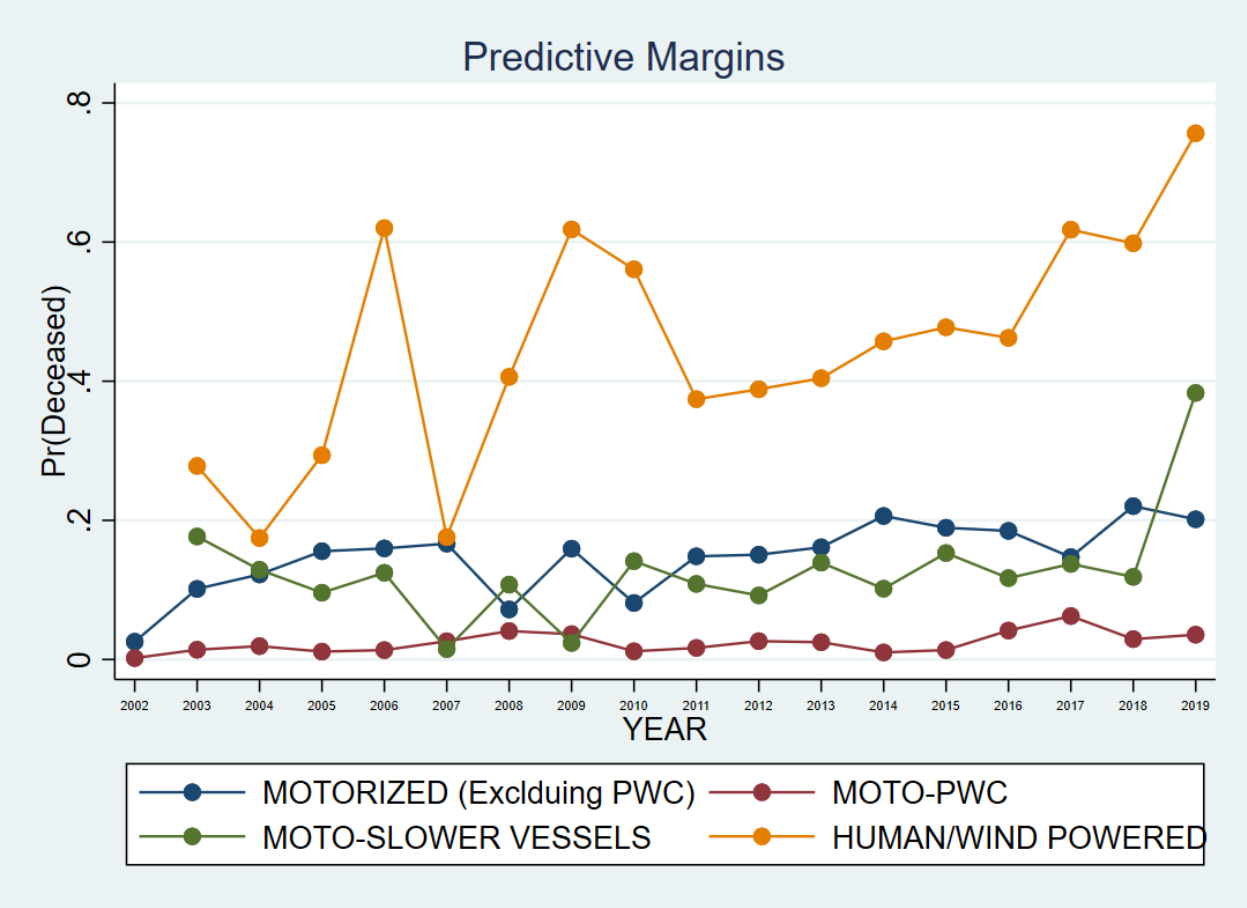
The blue line shows the number of reported accidents per year between 2000 and 2019. The total number of reported accidents before 2008 seems overall greater than the number of accidents after 2008. Whereas the total number of reported accidents has declined over the years, the proportion of injuries and fatalities has continued to rise. In other words, there have been more injuries and fatalities in recent years as a proportion of the number of accidents than there were in earlier years.



This graph shows the proportion of reported accidents each year that were involved with injuries or fatalities, standardizing the number of accidents, injuries, and fatalities each year to demonstrate trends over the years. This graph shows that the number of injuries and fatalities of all reported accidents has grown as a proportion between 2000 and 2019.

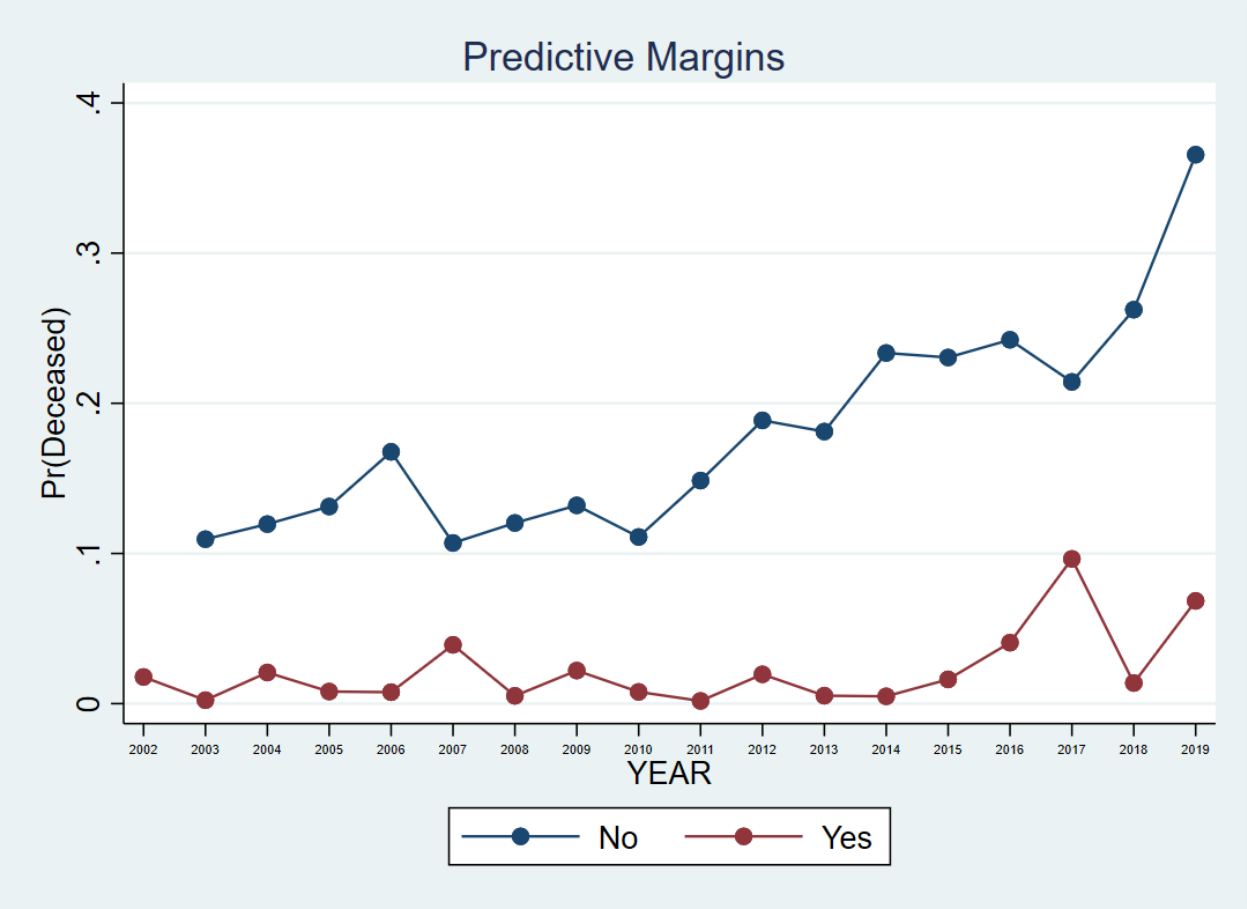
Year	Accidents	Injuries	Fatality
2000	146	51	15
2001	160	57	18
2002	160	57	9
2003	157	59	17
2004	161	68	19
2005	165	55	23
2006	141	41	24
2007	134	55	17
2008	91	46	14
2009	115	38	14
2010	84	23	11
2011	99	36	13
2012	118	44	26
2013	96	38	16
2014	126	52	21
2015	110	45	27
2016	106	48	18
2017	117	50	15
2018	104	43	19
2019	115	44	27

Logistic regression predicting accident fatality probabilities, by vessel type and year.



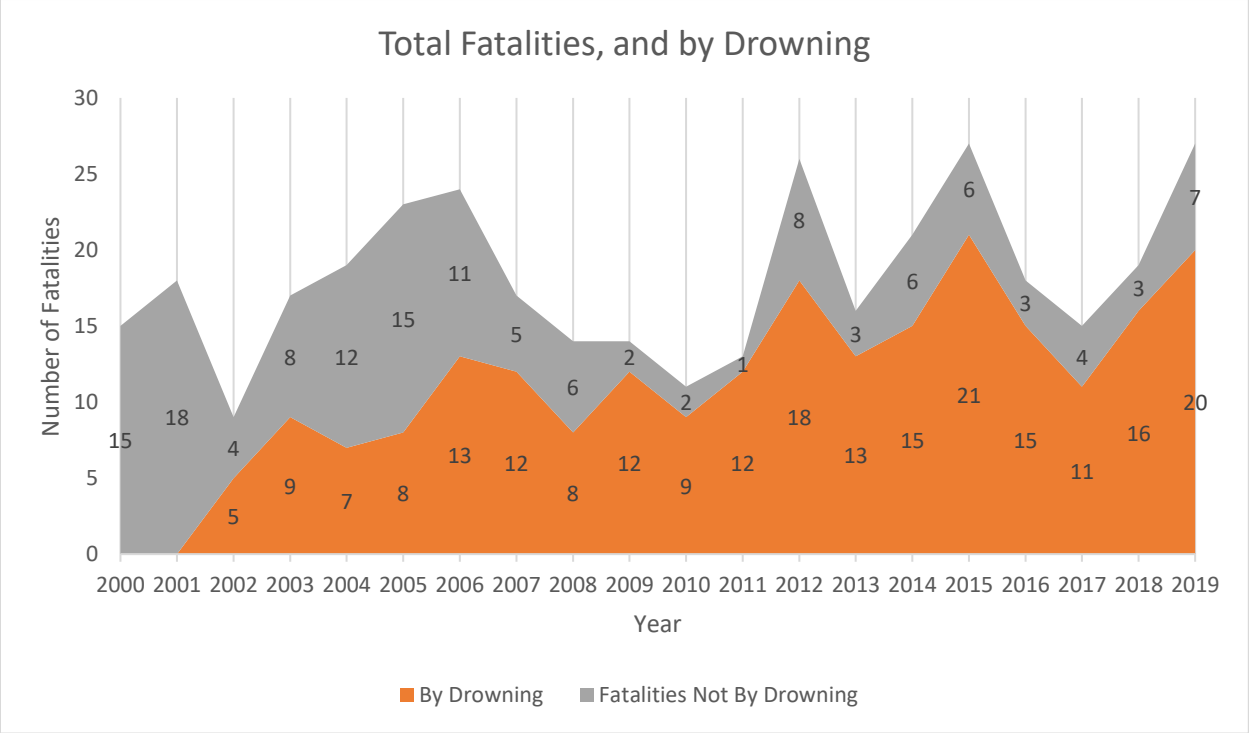
This graph shows the trending predicting lines showing how different vessel types change the probability of accident death over the 20-year timespan. The regression (Appendix) shows the probability of a reported accident being involved in a fatality. The probability of human/wind powered vessels being fatal approaches 0.8 in 2019, which means that about 80% of all accident reports filed for human/wind powered vessels were reports that included fatalities.

Logistic regression predicting accident fatality probabilities, by rented and year



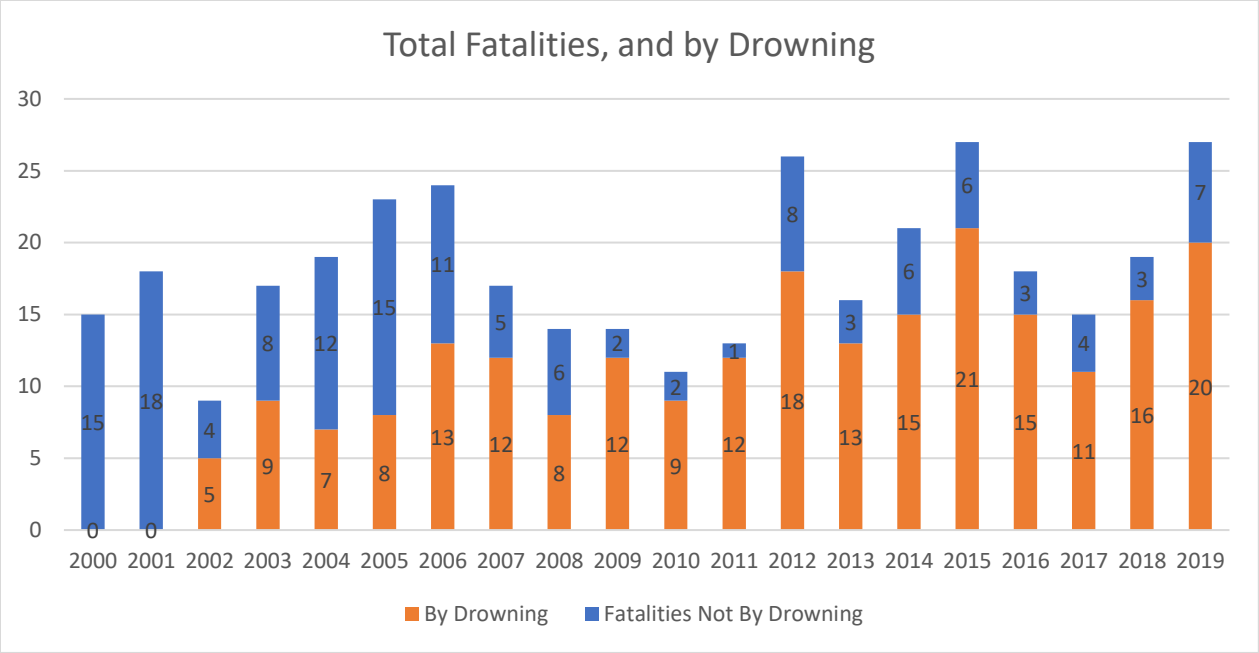
This graph shows that the predicted probability of an accidents involving a fatality for boat owners and boat renters over the years. This graph demonstrates an increase over the years of accidents reported by boat owners which result in fatalities. Whereas for renters, the probability that a reported accident involves a fatality has remained relatively stable over the years, and relatively less than for boat owners.

Section 3. Fatalities and Drownings



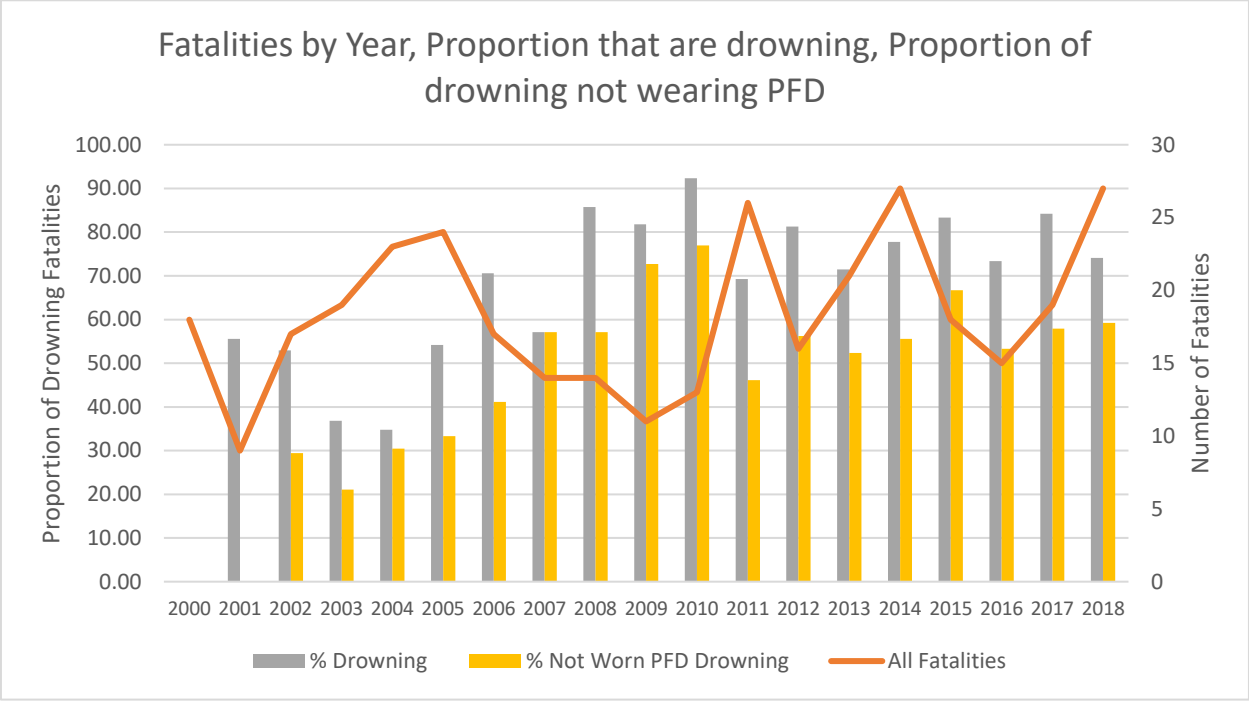
The graph above highlights the number of reported fatalities by drowning, per year, compared to the number of fatalities that are not by drowning. Drowning deaths as a proportion of all deaths has continued to grow from 2000 to 2019. For example, while drownings accounted for 54% of all deaths in 2006, the proportion of drowning deaths in 2019 was 74%.

Year	All Fatalities	By Drowning
2000	15	0
2001	18	0
2002	9	5
2003	17	9
2004	19	7
2005	23	8
2006	24	13
2007	17	12
2008	14	8
2009	14	12
2010	11	9
2011	13	12
2012	26	18
2013	16	13
2014	21	15
2015	27	21
2016	18	15
2017	15	11
2018	19	16
2019	27	20

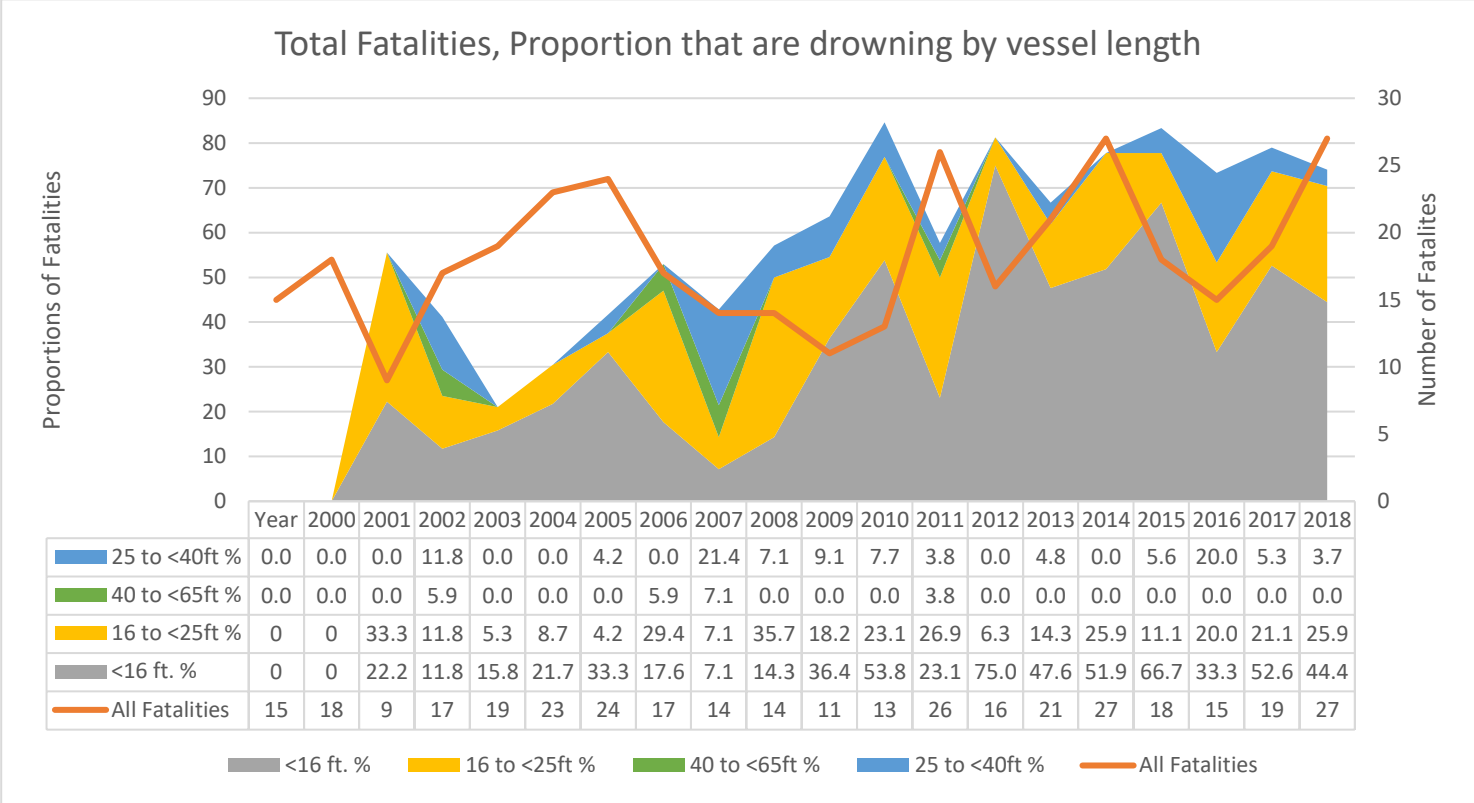


The graph above highlights the number of fatalities by drowning, per year, compared to the number of fatalities that are not by drowning. Drowning deaths as a proportion of all deaths has continued to grow from 2000 to 2019.

Year	All Fatalities	By Drowning	% Drowning	PFD Not Worn Drowning	% Not Worn PFD Drowning	PFD Worn Drowning	% PFD Worn Drowning
2000	15	0	0.00	.	.	.	.
2001	18	0	0.00	.	.	.	.
2002	9	5	55.56	.	.	1	20.0
2003	17	9	52.94	5	29.4	2	22.2
2004	19	7	36.84	4	21.1	0	0.0
2005	23	8	34.78	7	30.4	1	12.5
2006	24	13	54.17	8	33.3	2	15.4
2007	17	12	70.59	7	41.2	2	16.7
2008	14	8	57.14	8	57.1	0	0.0
2009	14	12	85.71	8	57.1	2	16.7
2010	11	9	81.82	8	72.7	.	.
2011	13	12	92.31	10	76.9	1	8.3
2012	26	18	69.23	12	46.2	6	33.3
2013	16	13	81.25	9	56.3	4	30.8
2014	21	15	71.43	11	52.4	4	26.7
2015	27	21	77.78	15	55.6	5	23.8
2016	18	15	83.33	12	66.7	3	20.0
2017	15	11	73.33	8	53.3	3	27.3
2018	19	16	84.21	11	57.9	4	25.0
2019	27	20	74.07	16	59.3	1	5.0



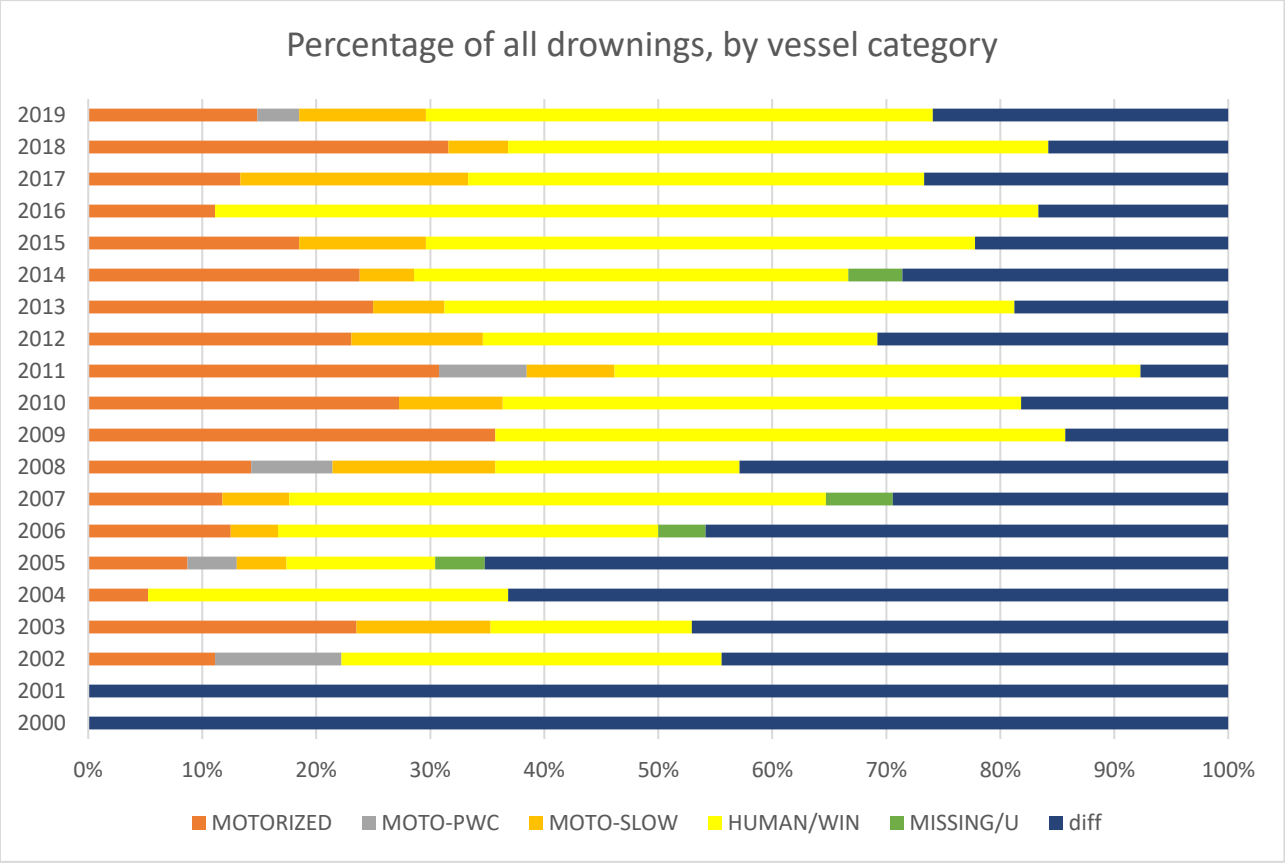
The graph above demonstrates the total number of fatalities by year (orange line), with the proportion of those fatalities that are attributed to drownings (gray bars), as well as the proportion of fatalities that are drownings by those who did not wear a PFD (yellow bars). This graph demonstrates that most fatalities are due to drownings. Furthermore, most fatalities by drowning were not wearing PFDs.



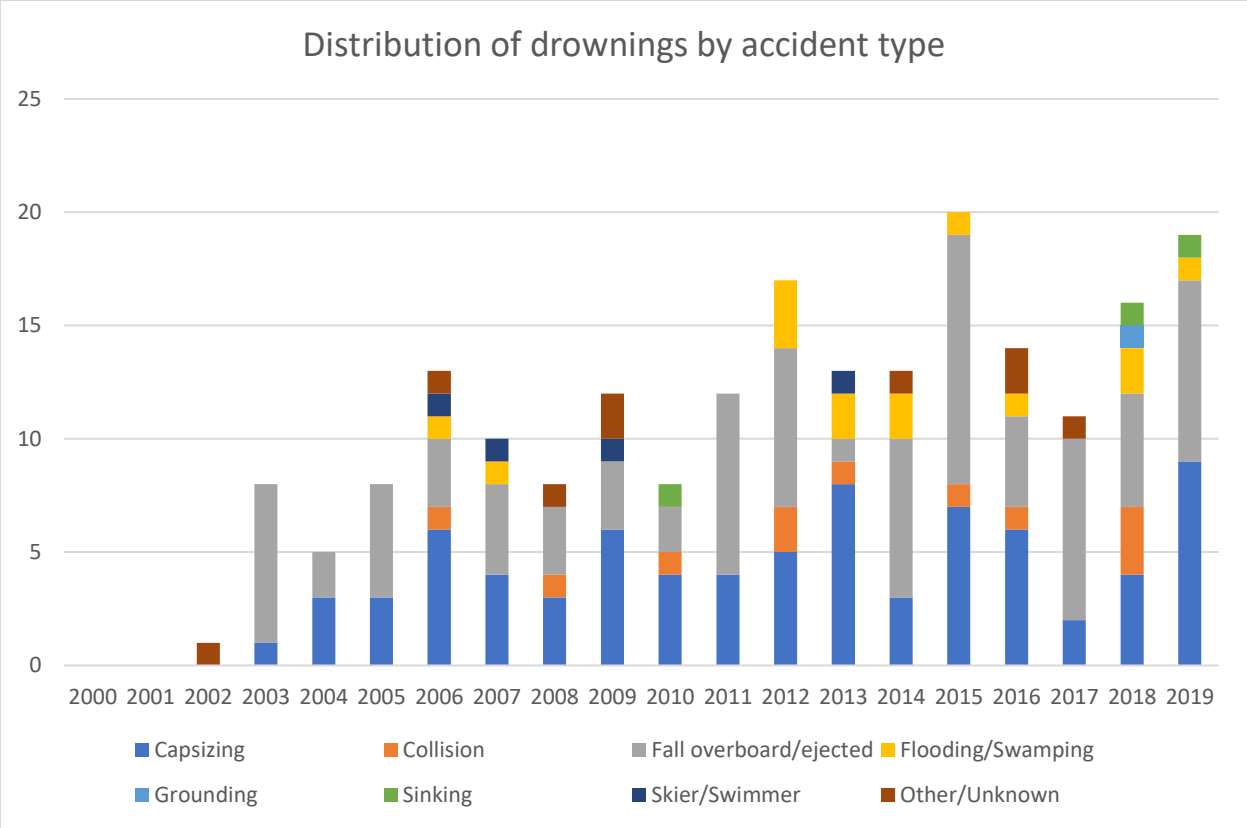
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
25 to <40ft %	0.0	0.0	0.0	11.8	0.0	0.0	4.2	0.0	21.4	7.1	9.1	7.7	3.8	0.0	4.8	0.0	5.6	20.0	5.3	3.7
40 to <65ft %	0.0	0.0	0.0	5.9	0.0	0.0	0.0	5.9	7.1	0.0	0.0	0.0	3.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
16 to <25ft %	0	0	33.3	11.8	5.3	8.7	4.2	29.4	7.1	35.7	18.2	23.1	26.9	6.3	14.3	25.9	11.1	20.0	21.1	25.9
<16 ft. %	0	0	22.2	11.8	15.8	21.7	33.3	17.6	7.1	14.3	36.4	53.8	23.1	75.0	47.6	51.9	66.7	33.3	52.6	44.4
All Fatalities	15	18	9	17	19	23	24	17	14	14	11	13	26	16	21	27	18	15	19	27

The orange line in the graph above shows the total number of fatalities per year. The shaded areas show the proportion of fatalities per year that were due to drownings, categorized by vessel type. There are two things to note from this graph: (1) The proportion of fatalities that were drownings has grown from 2000 to 2019, and (2) the majority of drowning fatalities were on vessels that are less than 16 feet long. There were no drowning fatalities reported for vessels 65 feet or greater.

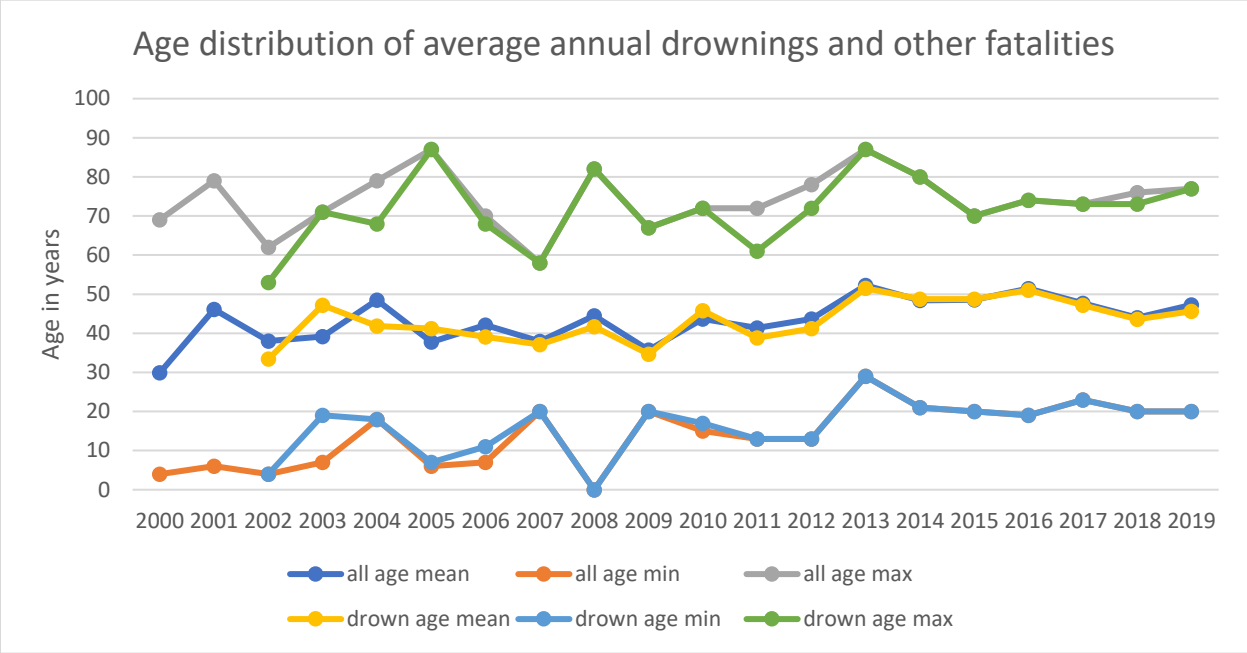
Year	All Fatalities	<16 ft.	<16 ft. %	16 to <25ft	16 to <25ft %	25 to <40ft	25 to <40ft %	40 to <65ft	40 to <65ft %
2000	15		0		0		0.0		0.0
2001	18		0		0		0.0		0.0
2002	9	2	22.2	3	33.3		0.0		0.0
2003	17	2	11.8	2	11.8	2	11.8	1	5.9
2004	19	3	15.8	1	5.3		0.0		0.0
2005	23	5	21.7	2	8.7		0.0		0.0
2006	24	8	33.3	1	4.2	1	4.2		0.0
2007	17	3	17.6	5	29.4		0.0	1	5.9
2008	14	1	7.1	1	7.1	3	21.4	1	7.1
2009	14	2	14.3	5	35.7	1	7.1		0.0
2010	11	4	36.4	2	18.2	1	9.1		0.0
2011	13	7	53.8	3	23.1	1	7.7		0.0
2012	26	6	23.1	7	26.9	1	3.8	1	3.8
2013	16	12	75.0	1	6.3		0.0		0.0
2014	21	10	47.6	3	14.3	1	4.8		0.0
2015	27	14	51.9	7	25.9		0.0		0.0
2016	18	12	66.7	2	11.1	1	5.6		0.0
2017	15	5	33.3	3	20.0	3	20.0		0.0
2018	19	10	52.6	4	21.1	1	5.3		0.0
2019	27	12	44.4	7	25.9	1	3.7		0.0



The graph above looks at the proportion of all drownings by vessel category by year. What is noteworthy is that the proportion of drowning attributed to motorized and human/wind powered vessels has continued to grow as a proportion of all fatalities. Also note that the majority of drownings happened on human/wind powered vessels.

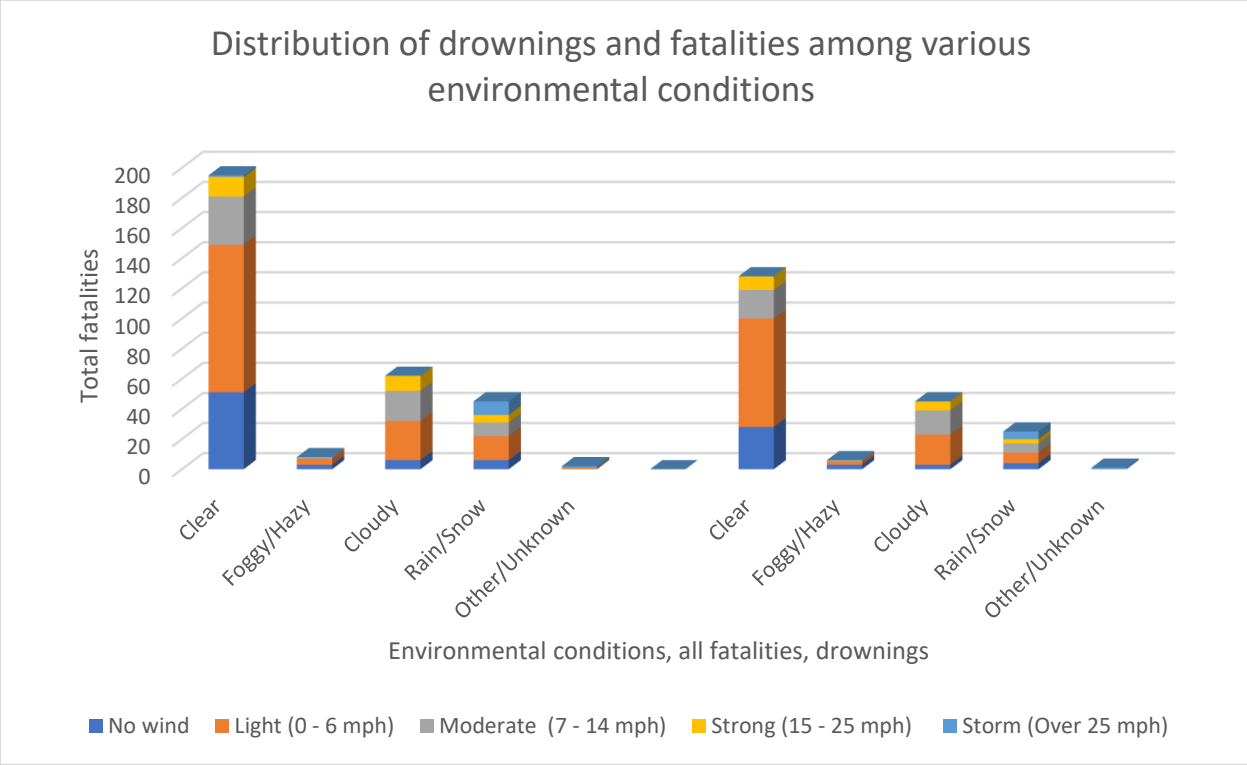


The graph above shows the types of accidents that resulted in drownings. As has been established before, the proportion of accidents that involve drownings has risen over the years. Noteworthy are two types of accident types: capsizing and fall overboard/ejected. These two types of accident types make up the majority of accidents leading to drownings. There is no data on accident types before 2003.



The graph above shows the average age of all fatalities, and the average age of drowning fatalities, as well as the minimum and maximum ages in all years. The means and ranges of years for all fatalities and for drowning fatalities are very similar, given that the majority of fatalities are drowning fatalities. The youngest fatality was in 2008, aged zero, while the oldest fatalities were 87, in 2005 and 2013. The mean fatality age has risen from about 40 years in the early 2000's, to about 45 in more recent years. Data for drownings prior to 2002 was not available.

Year	All Fatalities			Fatalities by Drowning		
	Mean Age	Minimum Age	Maximum Age	Mean Age	Minimum Age	Maximum Age
2000	29.9	4	69	.	.	.
2001	46.1	6	79	.	.	.
2002	38	4	62	33.4	4	53
2003	39.2	7	71	47.2	19	71
2004	48.5	18	79	41.9	18	68
2005	37.8	6	87	41.25	7	87
2006	42.1	7	70	39.1	11	68
2007	37.9	20	58	37.1	20	58
2008	44.5	0	82	41.7	0	82
2009	35.7	20	67	34.7	20	67
2010	43.7	15	72	45.8	17	72
2011	41.4	13	72	38.8	13	61
2012	43.7	13	78	41.2	13	72
2013	52.25	29	87	51.5	29	87
2014	48.4	21	80	48.7	21	80
2015	48.6	20	70	48.7	20	70
2016	51.4	19	74	51	19	74
2017	47.7	23	73	47.2	23	73
2018	44	20	76	43.6	20	73
2019	47.3	20	77	45.65	20	77



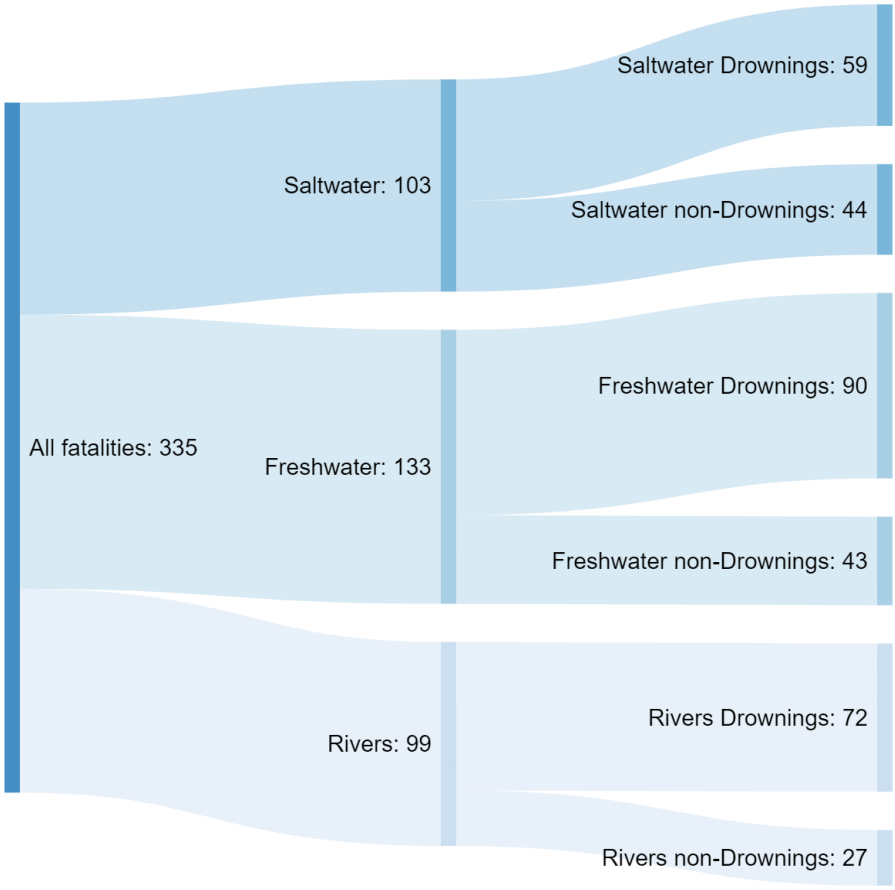
The graph above demonstrates the environmental conditions that existed during all fatalities (the left half of the graphs), and of drownings (the right half of the graph). For all fatalities, the environmental conditions were mostly clear. Furthermore, the wind speeds during the majority of drownings were categorized as being up to 6mph.

Distribution of <u>all fatalities</u> among environmental conditions

	No wind	Light (0 - 6 mph)	Moderate (7 - 14 mph)	Strong (15 - 25 mph)	Storm (Over 25 mph)
Clear	51	98	32	13	1
Foggy/Hazy	3	4	1	0	0
Cloudy	6	26	20	10	0
Rain/Snow	6	16	9	5	9
Other/Unknown	0	1	0	0	1

Distribution of <u>drownings</u> among environmental conditions

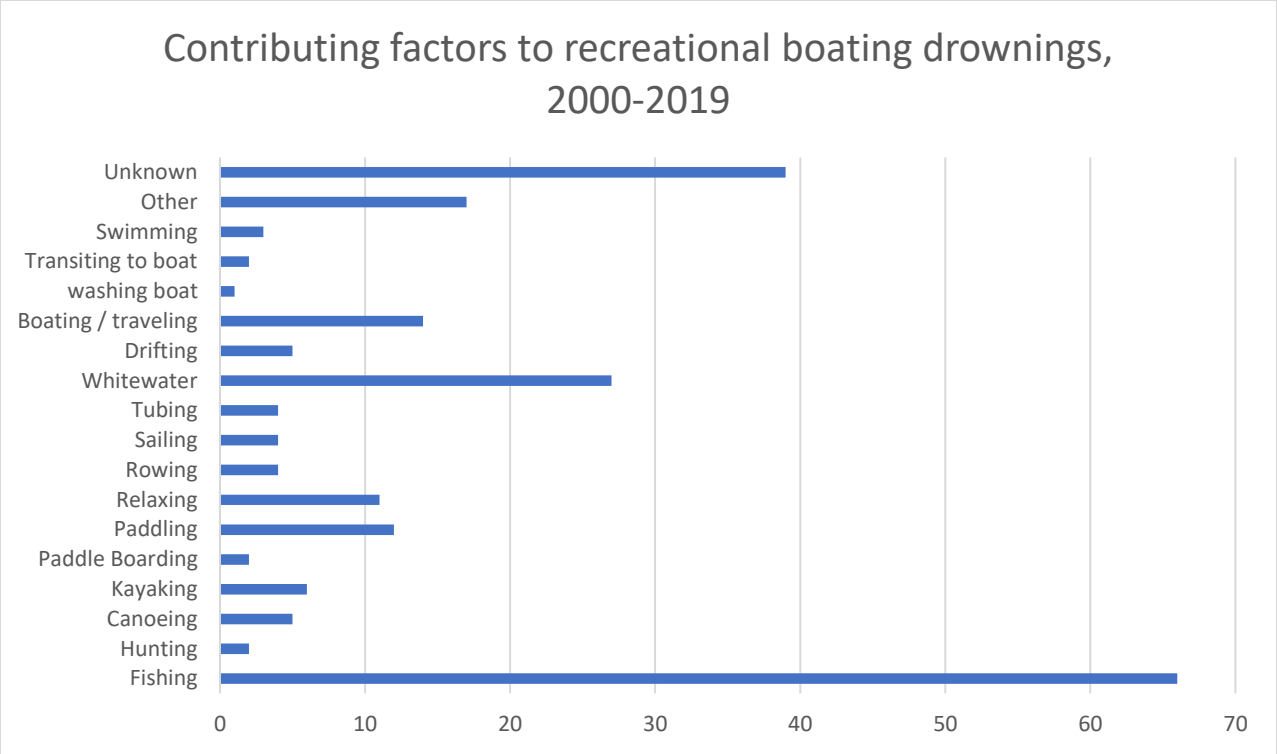
	No wind	Light (0 - 6 mph)	Moderate (7 - 14 mph)	Strong (15 - 25 mph)	Storm (Over 25 mph)
Clear	28	72	19	9	0
Foggy/Hazy	3	2	1	0	0
Cloudy	3	20	16	6	0
Rain/Snow	4	7	6	3	5
Other/Unknown	0	0	0	0	1



The graph above shows the distribution of fatalities among different categories of body of water. The data shows that fatalities were distributed roughly equally across rivers, freshwater, and saltwater. Rivers had the highest proportion of drownings, as a proportion of all fatalities, whereas saltwater had the lowest proportion of drownings. Lastly, the majority of fatalities occurred in freshwater locations.

Distribution of drownings and fatalities among various bodies of water

	All	Drownings	Other
Saltwater			
103	103	59	44
Freshwater	133	90	43
River	99	72	27
total	335	221	114



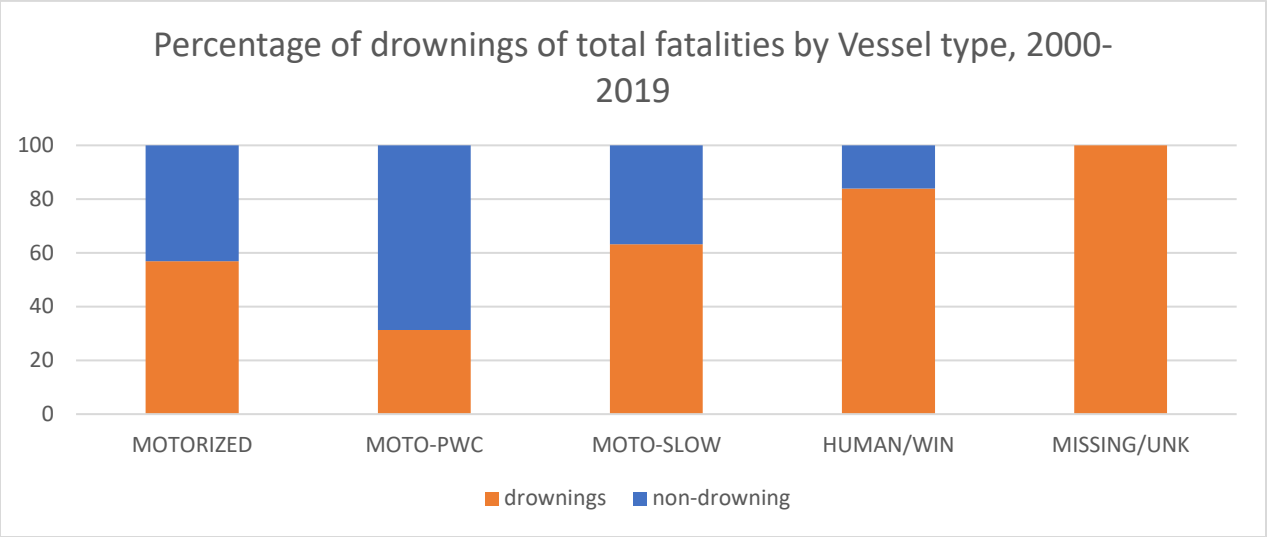
The graph above shows the contributing factors that led to drownings from 2000 to 2019. Fishing contributed to the majority of boating drownings. Where data exists, the next most common contributing factor to boating drownings was whitewater recreational activities.

Of victims who drowned while fishing, where data is known, 45% of vessels were Open Motorboats, 22% were Rowboats, 9% were Inflatable vessels, 7% were Cabin Motorboats, and another 7% were Kayaks, 4% were Canoes, 1% were Personal Watercrafts, and another 1% were Pontoons, and the rest were unknown (2%).

Of the Open Motorboat drownings, 48% were due to Operation of Vessels (half of which were Alcohol Related), 15% due to Loading of Passengers or Gear, 15% due to the Environment, 4% due to Failure of Boat or Boat Equipment, and 19% due to Miscellaneous reasons.

Victim activity	Drownings
Fishing	66
Hunting	2
Canoeing	5
Kayaking	6
Paddle Boarding	2
Paddling	12
Relaxing	11
Rowing	4
Sailing	4
Tubing	4
Whitewater	27
Drifting	5
Boating / traveling	14
washing boat	1
Transiting to boat	2
Swimming	3
Other	17
Unknown	39

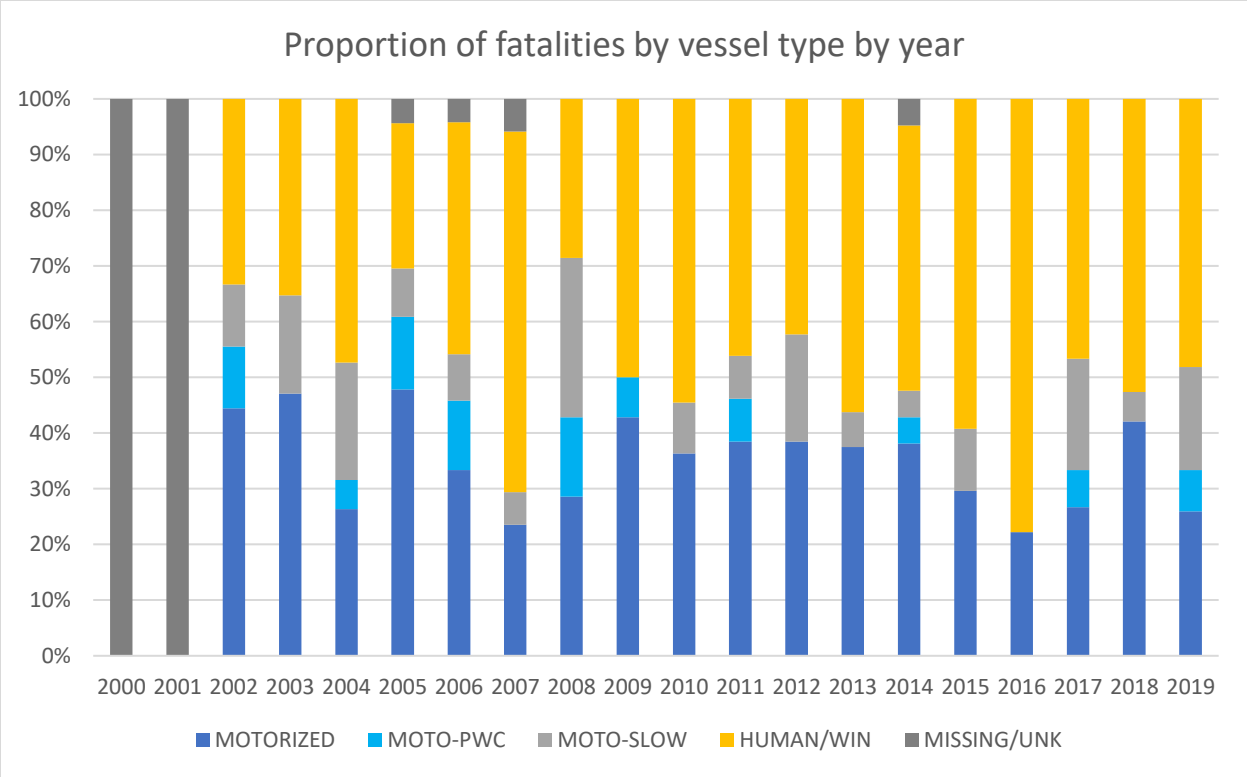
Section 4. Accidents by Vessel Types



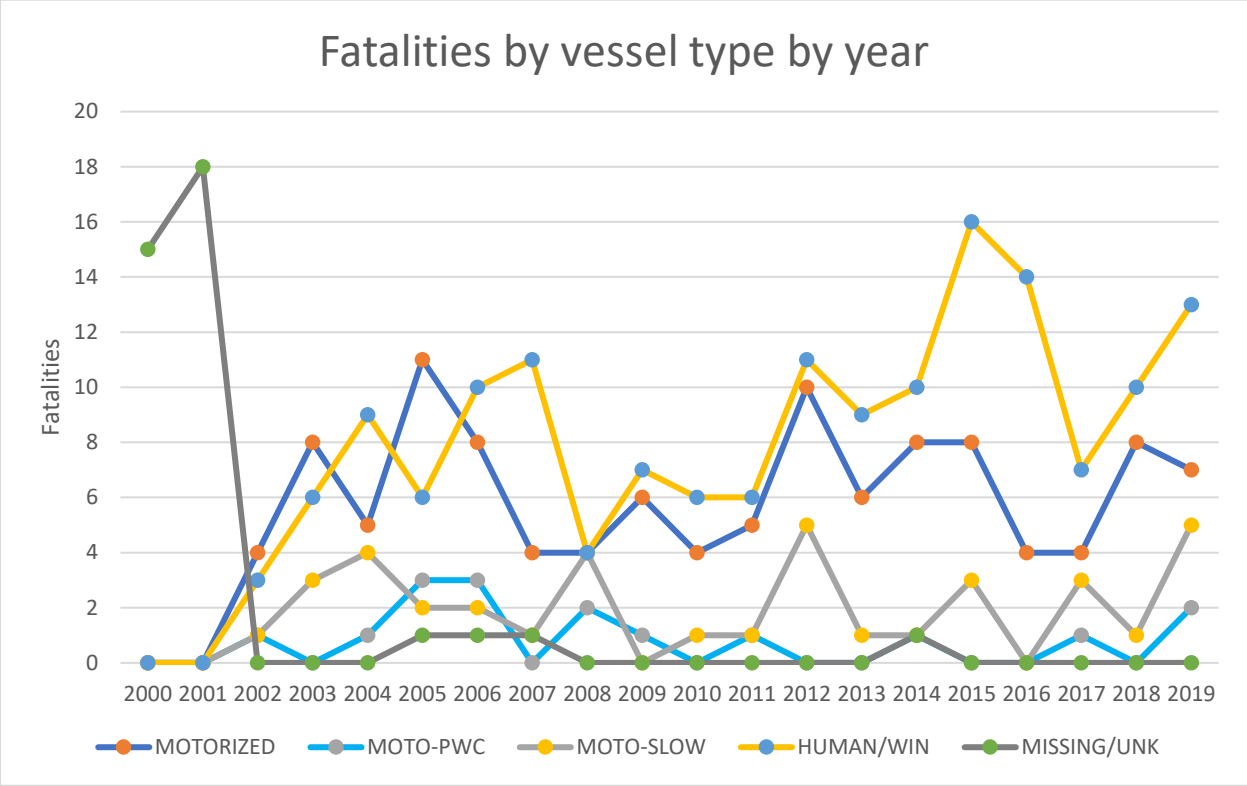
The graph above shows the proportion of reported fatalities that were due to drownings by vessel category. Most Personal Watercraft fatalities were not due to drownings, whereas the majority of human/wind-powered vessel fatalities were due to drownings. The right-most bar in the graph shows that vessel types are unknown for some cases of drownings.

Percentage of drownings of total fatalities by VCAT						
	MOTORIZED	MOTO-PWC	MOTO-SLOW	HUMAN/WIN	MISSING/UNK	Total
Non-drowning	47 (43.12%)	11 (68.75)%	14 (36.84%)	25 (16.13%)	0	97 (30.12%)
Drowning	62 (56.88%)	5 (31.25%)	24 (63.16%)	130 (83.87%)	4 (100%)	225 (69.88%)
Total	109	16	38	155	4	322

The above table shows that human/wind-powered vessels contributed to the greatest number of fatalities. The second highest contributing vessel type is motorized.



The graph above shows the types of vessels where fatalities occurred, per year, between 2000 and 2019. The graph shows how fatalities have shifted over the years, with the most noticeable differences taking place with motorized vessels and human/wind powered vessels. From 2002 (the latest year with data on type of vessel), the proportion of fatalities attributed to motorized vessels has declined. On the other hand, the proportion of fatalities attributed to human/wind powered vessels has increased.



The graph shows the total number of fatalities, per year, attributed to different vessel types. What is clear from this graph is that human/wind powered vessels are associated with the most number of fatalities of any vessel category. On the other hand, the number of fatalities associated with the other vessel categories has remained about the same.

The above image shows the contributing factors that have led to all reported accidents. The leading cause is operation of vessels (60% of all accidents). This single category was further broken down in the second image to show what specifically about the operation of vessels led to accidents. The second image shows the proportion of operation of vessels, where 21% of accidents involved operator inattention. A further 19% involved operator inexperience. Whereas alcohol use was associated with 16% of accidents attributed to operation of vessels. In other words, Alcohol use was attributed to 9.8% of all reported accidents.

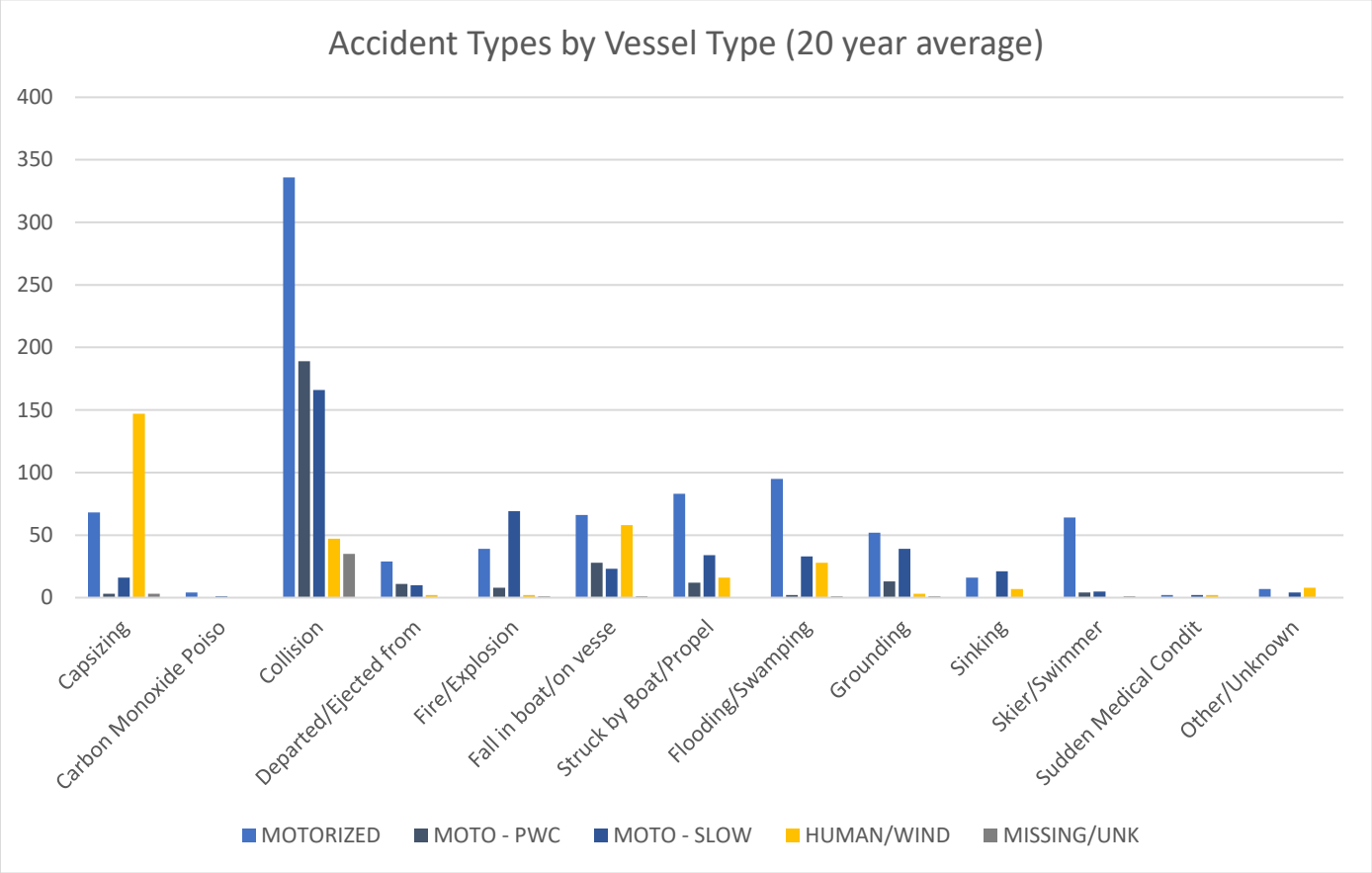
The total number and the percentage of vessels involved in accidents by contributing factor (20 year average)

Operation of Vessel	1,808	59.79
Loading of Passengers or Gear	110	3.64
Failure of Boat or Boat Equipment	215	7.11
Environment	279	9.23
Miscellaneous	612	20.24

Further breaking down how the operation of vessel contributed to accidents over the past twenty years, below is a detailed breakdown of the various factors which are considered as the operation of the vessel which has led to accidents. As indicated in the table, 21% of accidents were caused by operator inattention, 19% of accidents were caused by operator inexperience, and 16% of accidents were due to alcohol use. Together, these three factors have caused 1,023 reported accidents between 2000 and 2019.

Categories under Operation of Vessel

Type	**Accidents**	%
Alcohol Use	297	16.43
Careless/Reckless Operation	93	5.14
Drug Use	4	0.22
Excessive Speed	123	6.8
Failure to Vent	7	0.39
Failure to Yield	2	0.11
Hazardous Waters	129	7.13
Improper Lighting or No Lights	26	1.44
Navigation Rules Violation	57	3.15
Negligent Operation	135	7.47
No Proper Lookout	124	6.86
Operation Inexperience	348	19.25
Operator Inattention	378	20.91
Restricted Vision	55	3.04
Sharp Turn	28	1.55
Starting in Gear	2	0.11



The majority of accidents in the past 20 years were collisions. Among collisions, the majority were motorized vessels of all types.

Motorized vessels were mostly involved in accident that were collisions, capsizing, flooding/swamping, and groundings.

Personal watercraft involved in accidents were mainly collisions.

Slower motorized vessels were involved in accidents that were collisions, fire/explosions, and groundings.

Human/wind-powered vessels were mostly involved in capsizing accidents, collisions, and instances when someone fell on the vessel.

Accident Types by Vessel Type (20 year average)

	MOTORIZED	MOTO - PWC	MOTO - SLOW	HUMAN/WIND	MISSING/UNK
Capsizing	68	3	16	147	3
Carbon Monoxide Poison	4	0	1	0	0
Collision	336	189	166	47	35
Departed/Ejected from	29	11	10	2	0
Fire/Explosion	39	8	69	2	1
Fall in boat/on vessel	66	28	23	58	1
Struck by Boat/Propel	83	12	34	16	0
Flooding/Swamping	95	2	33	28	1
Grounding	52	13	39	3	1
Sinking	16	0	21	7	0
Skier/Swimmer	64	4	5	0	1
Sudden Medical Condit	2	0	2	2	0
Other/Unknown	7	0	4	8	0

The table above shows that capsizing accidents are most common with human/wind-powered vessels. Whereas collisions are common among all categories, they mostly involve motorized vessels. Fire/explosions are most common among the moto-slow category (pontoons, houseboats, etc.).

Section 5. Drownings and Fatalities by Vessel Types

Percentage of drowning of total fatalities, by VCAT

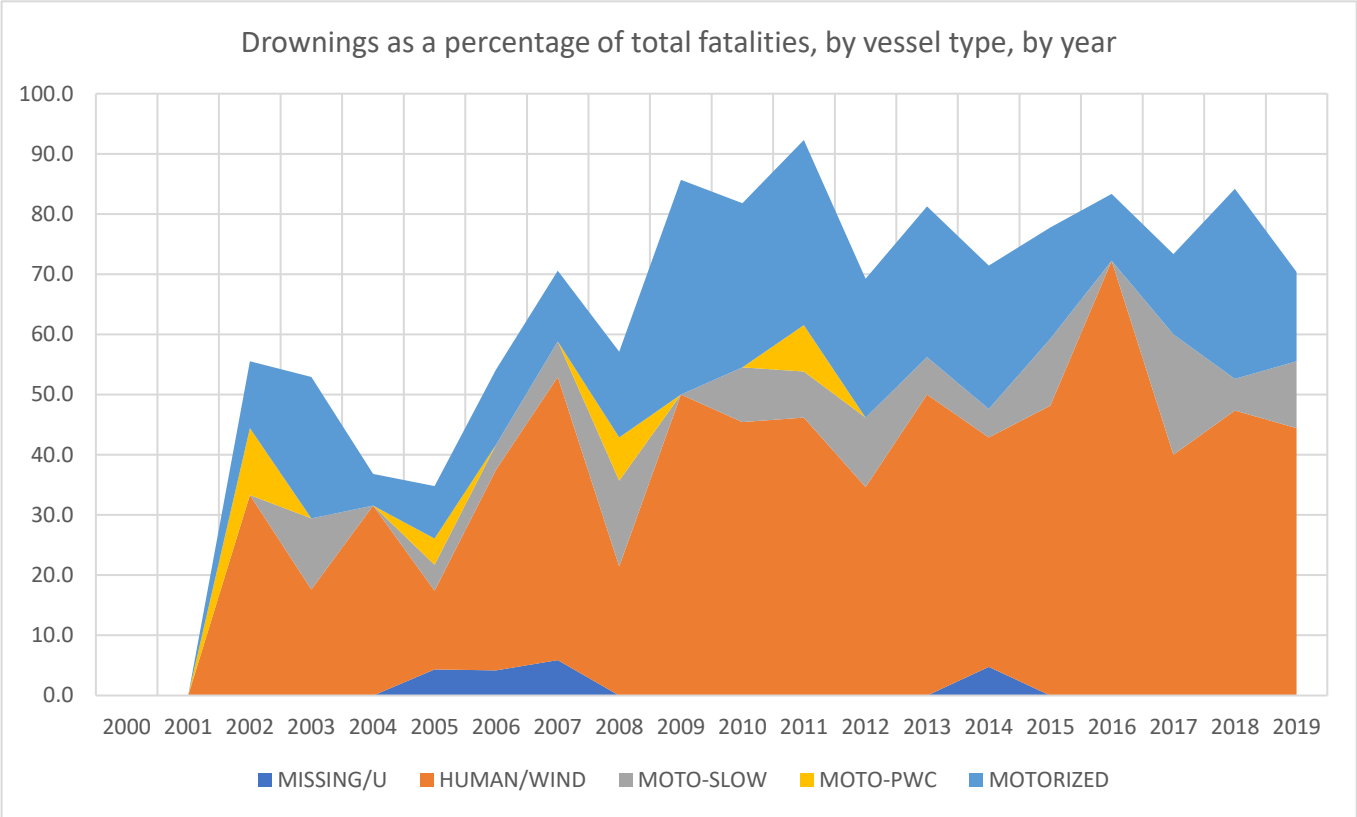
YEAR	MOTORIZED	MOTORIZED %	MOTO-PWC	MOTO-PWC %	MOTO-SLOW	MOTO-SLOW %	HUMAN/WIN	HUMAN/WIND %	MISSING/U	MISSING/U %
2000		0.0		0.0		0.0		0.0		0.0
2001		0.0		0.0		0.0		0.0		0.0
2002	1	11.1	1	11.1		0.0	3	33.3		0.0
2003	4	23.5		0.0	2	11.8	3	17.6		0.0
2004	1	5.3		0.0		0.0	6	31.6		0.0
2005	2	8.7	1	4.3	1	4.3	3	13.0	1	4.3
2006	3	12.5		0.0	1	4.2	8	33.3	1	4.2
2007	2	11.8		0.0	1	5.9	8	47.1	1	5.9
2008	2	14.3	1	7.1	2	14.3	3	21.4		0.0
2009	5	35.7		0.0		0.0	7	50.0		0.0
2010	3	27.3		0.0	1	9.1	5	45.5		0.0
2011	4	30.8	1	7.7	1	7.7	6	46.2		0.0
2012	6	23.1		0.0	3	11.5	9	34.6		0.0
2013	4	25.0		0.0	1	6.3	8	50.0		0.0
2014	5	23.8		0.0	1	4.8	8	38.1	1	4.8
2015	5	18.5		0.0	3	11.1	13	48.1		0.0
2016	2	11.1		0.0		0.0	13	72.2		0.0
2017	2	13.3		0.0	3	20.0	6	40.0		0.0
2018	6	31.6		0.0	1	5.3	9	47.4		0.0
2019	4	14.8	1	3.7	3	11.1	12	44.4		0.0

The table above shows both the total number of drownings by vessel type by year, and drownings as a proportion of all fatalities by vessel type by year. In other words, 12 drownings occurred in 2019 on human/wind-powered vessels, and this is 44% of 27, the total number of fatalities for 2019.

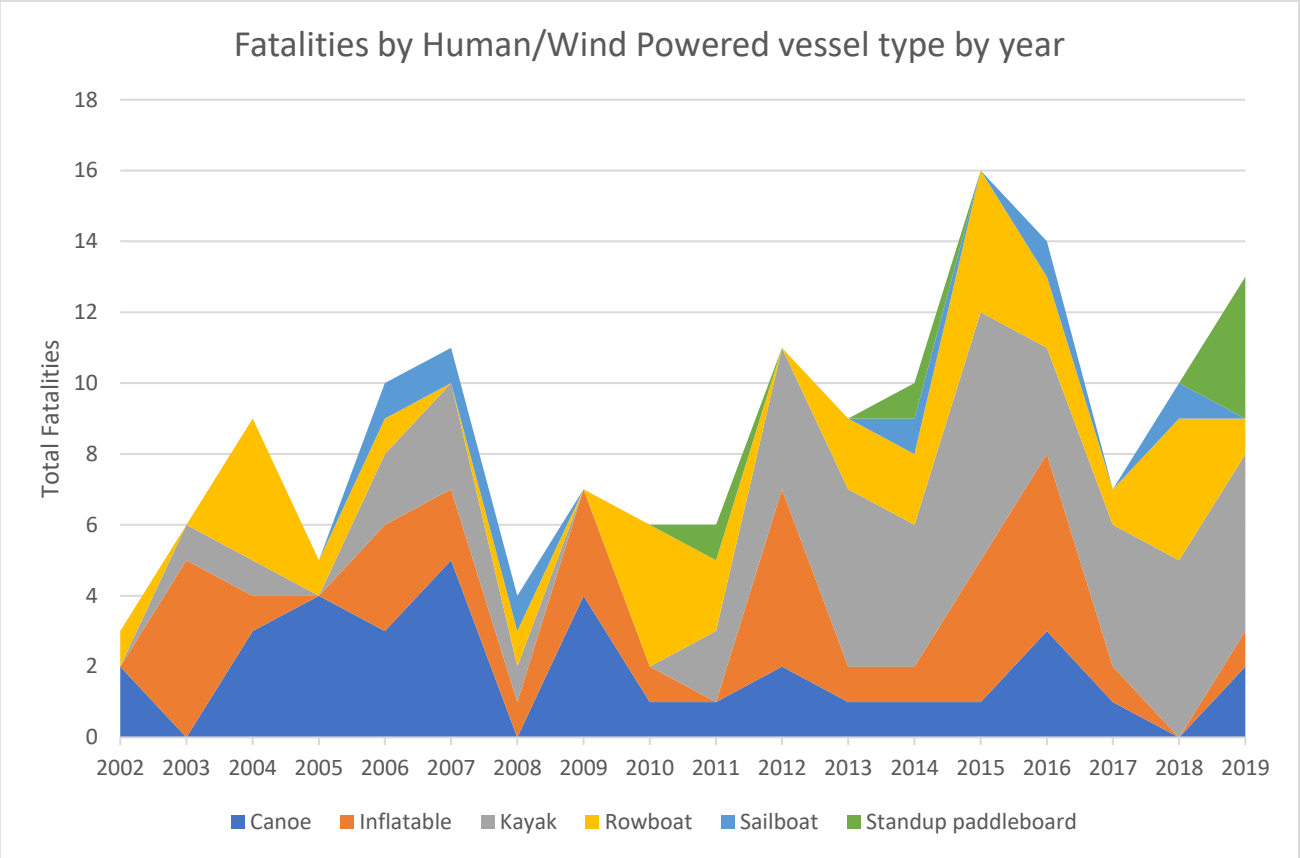
The columns by percentage have been formatted to highlight years with greater number of drownings per vessel category. Data for 2000 and 2001 was missing on vessel type.

The majority of drownings have involved human/wind powered vessels. The proportion of drownings by human/wind powered vessels peaked in 2016, with 13 drownings occurring that year.

Personal watercraft (MOTO-PWC) were least involved in drowning fatalities, of all vessel types. There have been only two drownings in the past 10 years on personal watercraft.



This graph visualizes the data in the previous table, showing drownings as a proportion of all fatalities between 2000 and 2019 by vessel type. Data is unknown for 2000 and 2001. The proportion of fatalities that were due to drownings has risen over the past twenty years. Furthermore, the majority of drowning fatalities were on human/wind powered vessels.



This graph shows the total number of fatalities by type of human/wind powered vessel, by year. As previously shown, the number of human/wind-powered vessel fatalities has increased over time. This graph shows which kind of vessels contributed to the increase. 2002 is the first year with data on vessel types and fatalities. Fatalities have grown for kayaks between 2002 and 2019, while fatalities for canoes have a declining trend.

2019, the latest year, shows the higher number of fatalities for standup-paddleboard of any year, with four fatalities. On the other hand, reported cases of fatalities have remained relatively constant for rowboat and inflatable vessels.

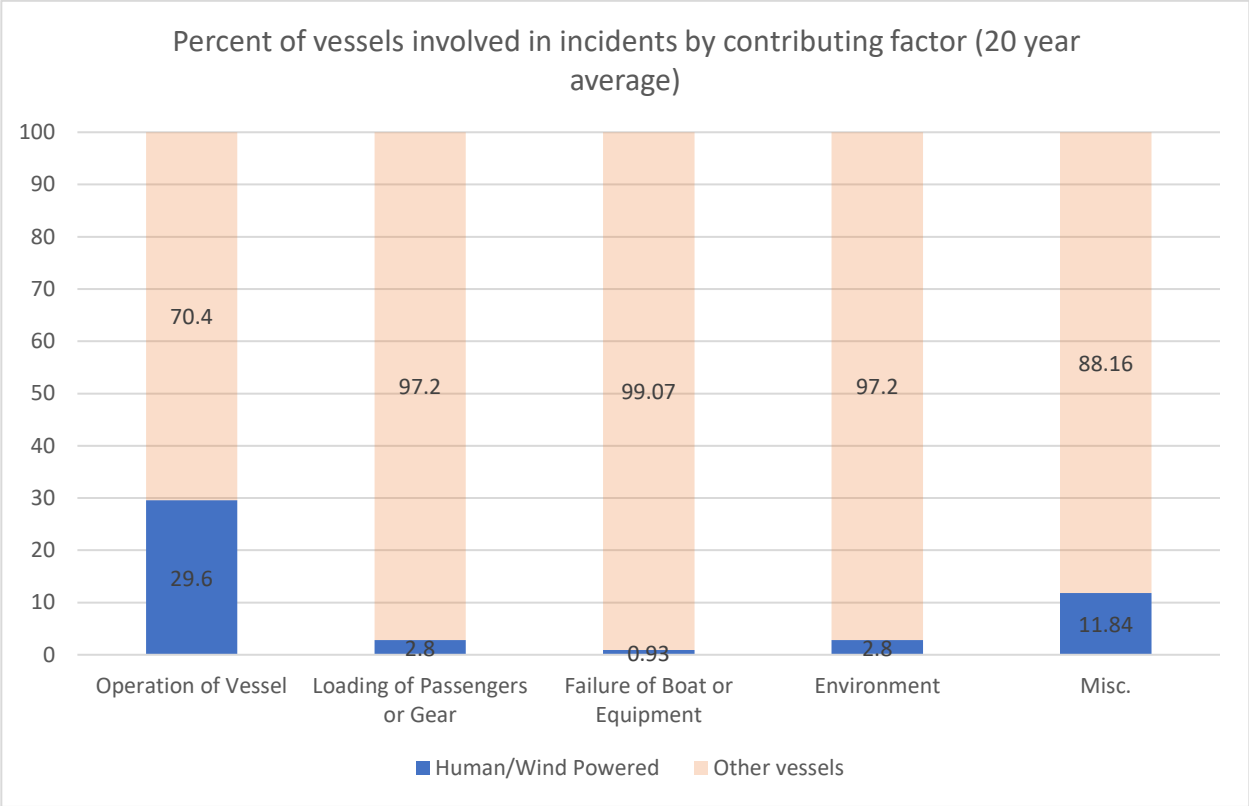
Fatalities by vessel type by year

Year	All Fatalities	Canoe	Inflatable	Kayak	Rowboat	Sailboat	Standup paddleboard
2002	9	2	0	0	1		
2003	17	0	5	1	0		
2004	19	3	1	1	4		
2005	23	4		0	1		
2006	24	3	3	2	1	1	
2007	17	5	2	3	0	1	
2008	14	0	1	1	1	1	
2009	14	4	3	0	0	0	
2010	11	1	1	0	4	0	
2011	13	1	0	2	2	0	1
2012	26	2	5	4	0	0	0
2013	16	1	1	5	2	0	0
2014	21	1	1	4	2	1	1
2015	27	1	4	7	4	0	0
2016	18	3	5	3	2	1	0
2017	15	1	1	4	1	0	0
2018	19	0	0	5	4	1	0
2019	27	2	1	5	1	0	4

In 2003, 2012, and 2016, highest number of fatalities of all human/wind powered vessels took place on inflatable vessels.

In 2002, 2005, 2006, 2007, and 2009, highest number of fatalities of all human/wind powered vessels took place on canoes.

Whereas in 2015, 2017, 2018, and 2019, highest number of fatalities of all human/wind powered vessels took place on kayaks.

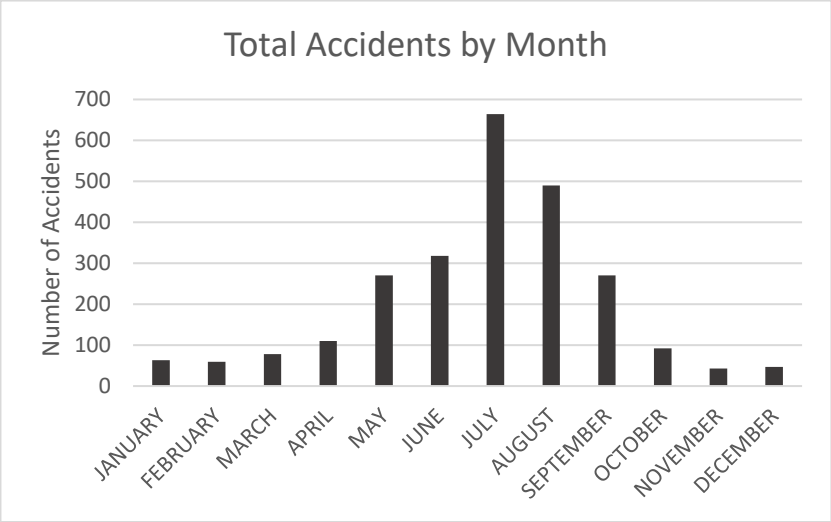


This graph shows that the majority of human/wind powered fatalities in the past 20 years were caused by problems with the operation of vessel. It is noteworthy that other factors such as loading of passengers or gear, failure of boat or equipment, or environmental factors were not significant causes of accidents for human/wind powered vessels.

Percent of vessels involved in incidents by contributing factor (20 year average)

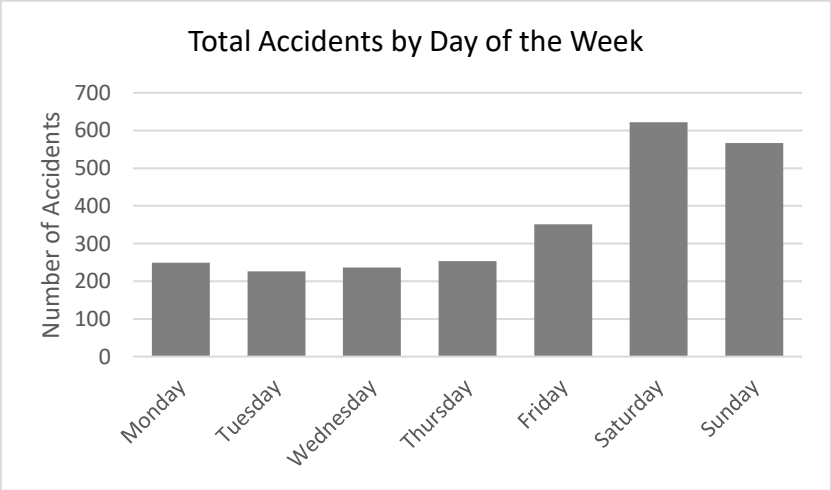
	Operation of Vessel	**Loading of Passengers or Gear**	**Failure of Boat or Equipment**	**Environment**	**Misc.**
Human/Wind Powered	29.6	2.8	0.93	2.8	11.84
Other vessels	70.4	97.2	99.07	97.2	88.16

Section 6. Accidents by Time, Type, and Cause



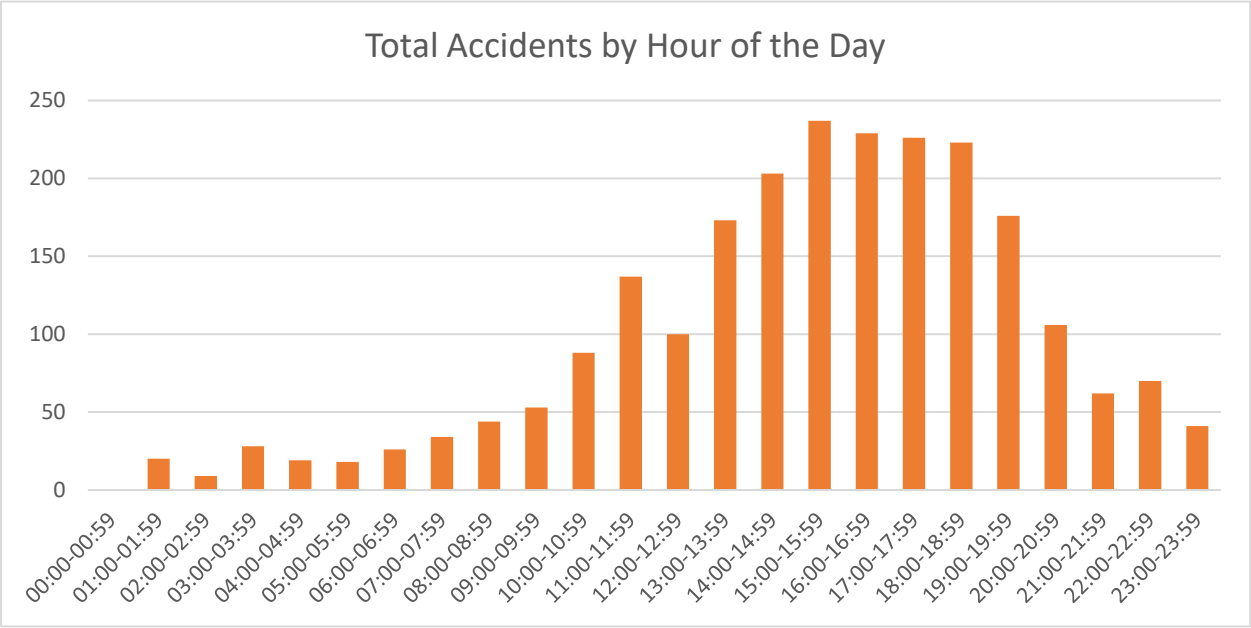
Total Accidents by month	
JANUARY	63
FEBRUARY	59
MARCH	78
APRIL	110
MAY	270
JUNE	318
JULY	664
AUGUST	490
SEPTEMBER	270
OCTOBER	92
NOVEMBER	43
DECEMBER	47

The highest number of reported accidents took place in July, with 664 accidents taking place in July between 2000 and 2019. December had the fewest number of reported accidents.



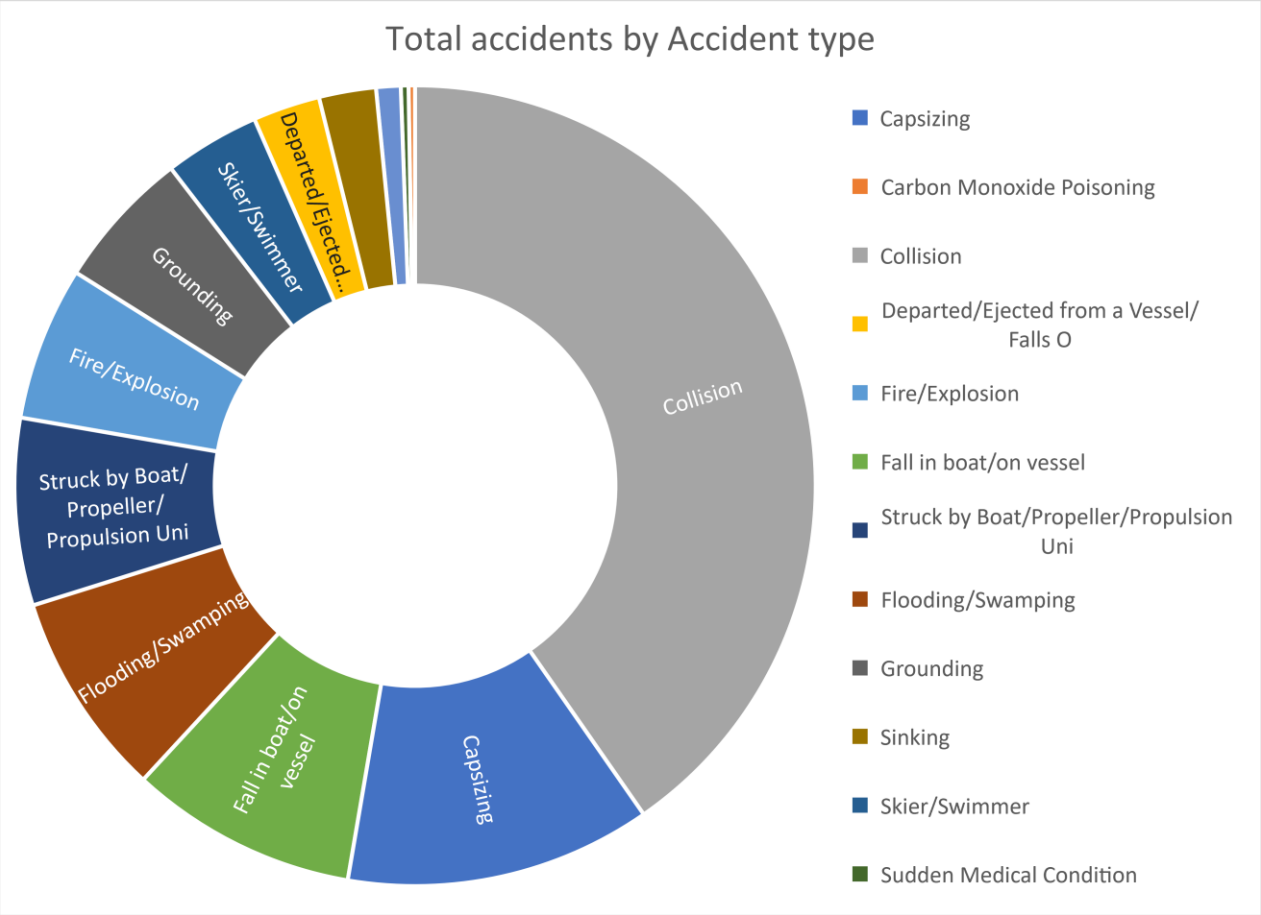
Total Accidents by Day of week	
Monday	249
Tuesday	226
Wednesday	236
Thursday	253
Friday	351
Saturday	622
Sunday	567

Saturdays and Sundays had the highest number of reported accidents, whereas Tuesday had the lowest number of reported accidents over the past 20 years.



This graph shows that the majority of reported accidents took place between 1pm and 8pm, with the peak between 3pm and 4pm and the accident rates begin to decline after 7pm. (**Note:** Due to data-entry error, all times set to 00:00 were omitted on the graph above.)

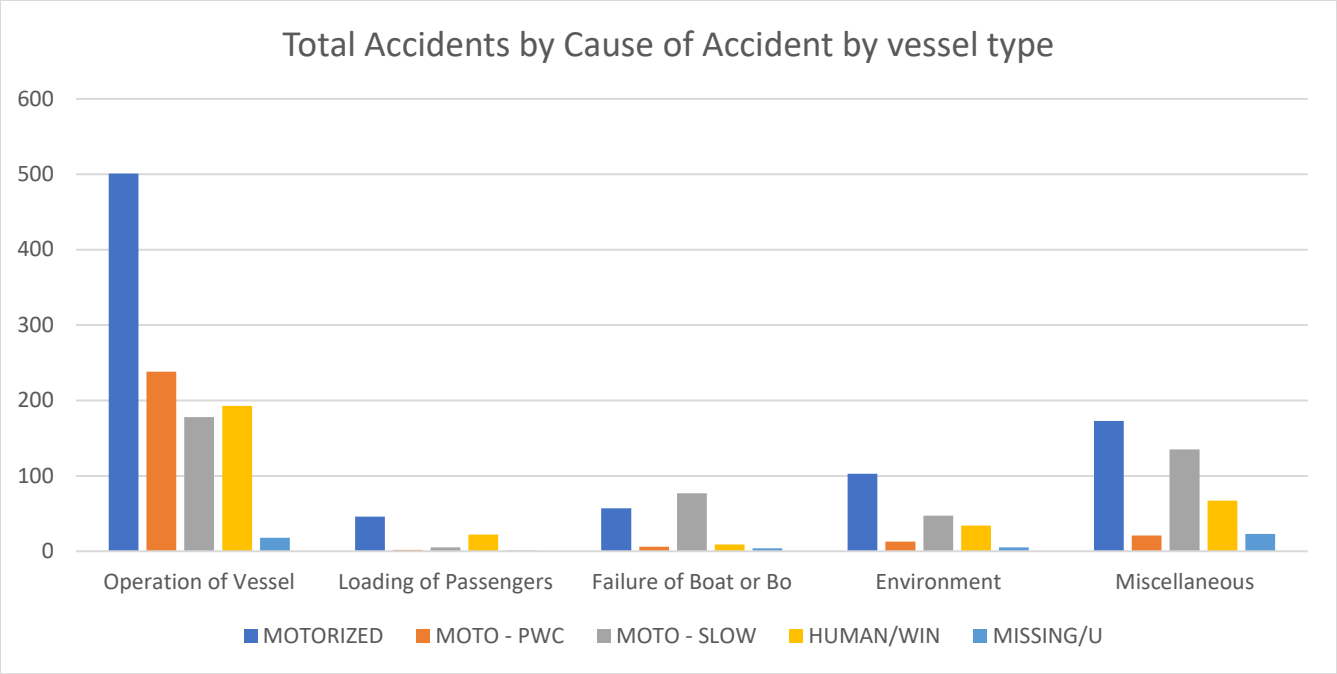
Total accidents by time	
00:00-00:59	.
01:00-01:59	20
02:00-02:59	9
03:00-03:59	28
04:00-04:59	19
05:00-05:59	18
06:00-06:59	26
07:00-07:59	34
08:00-08:59	44
09:00-09:59	53
10:00-10:59	88
11:00-11:59	137
12:00-12:59	100
13:00-13:59	173
14:00-14:59	203
15:00-15:59	237
16:00-16:59	229
17:00-17:59	226
18:00-18:59	223
19:00-19:59	176
20:00-20:59	106
21:00-21:59	62
22:00-22:59	70
23:00-23:59	41



This graph shows the proportion of various accident types as an average of 2000 to 2019. This graph shows that over half of all reported accidents from 2000 to 2019 were collisions and capsizing.

Total accidents by Accident type, 2000 to 2019

Accidents	Accidents	%
Capsizing	237	12.36
Carbon Monoxide Poisoning	5	0.26
Collision	773	40.32
Departed/Ejected from a Vessel/ Falls	52	2.71
Fire/Explosion	119	6.21
Fall in boat/on vessel	176	9.18
Struck by Boat/Propeller/Propulsion Uni	145	7.56
Flooding/Swamping	159	8.29
Grounding	108	5.63
Sinking	44	2.3
Skier/Swimmer	74	3.86
Sudden Medical Condition	6	0.31
Other/Unknown	19	0.99



This graph shows the total number of accidents by cause of accident and by vessel type over the past 20 years. The graph shows that most accidents were caused by the operation of vessel, and among those were mostly of motorized vessels.

Loading of Passengers were causes of accidents mainly for motorized vessels and with human/wind-powered vessels.

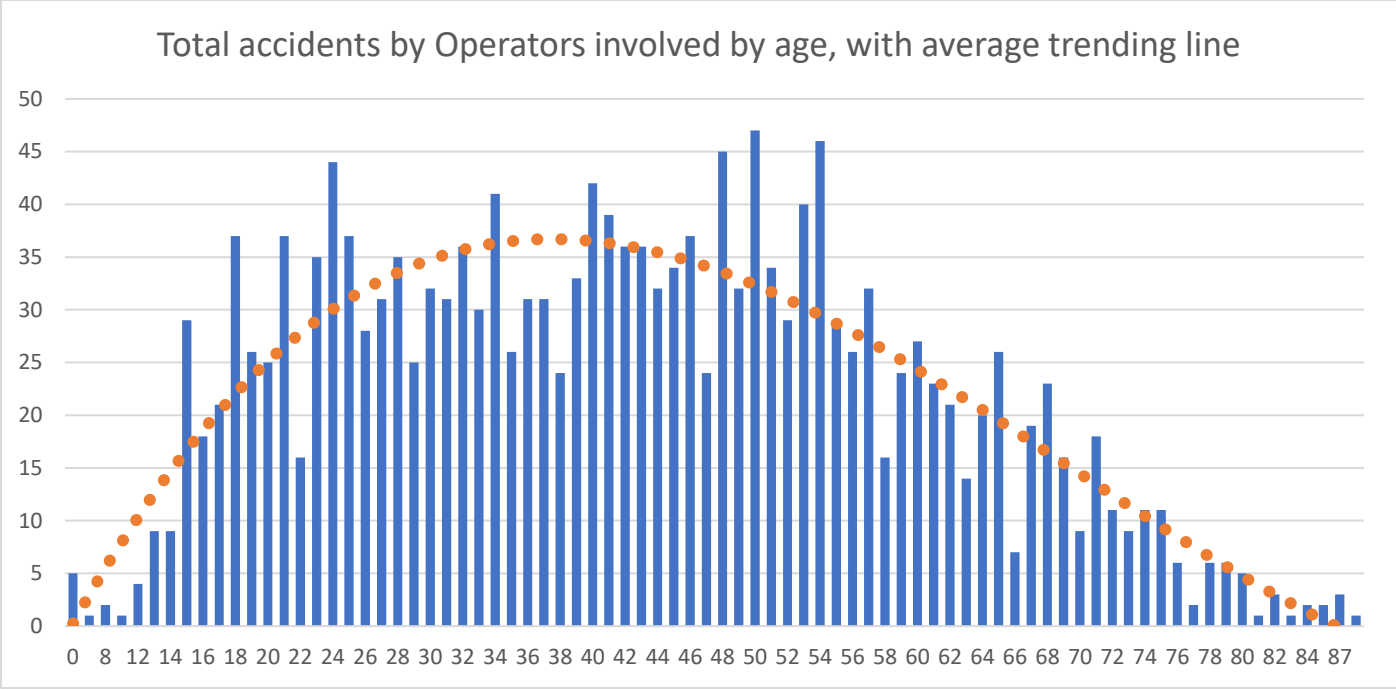
Failure of Boat were causes of accidents for motorized vessels and for slower motorized vessels (houseboats, pontoons, etc.).

Environmental factors contributed to accidents for motorized, slower motorized vessels, and human/wind powered vessels.

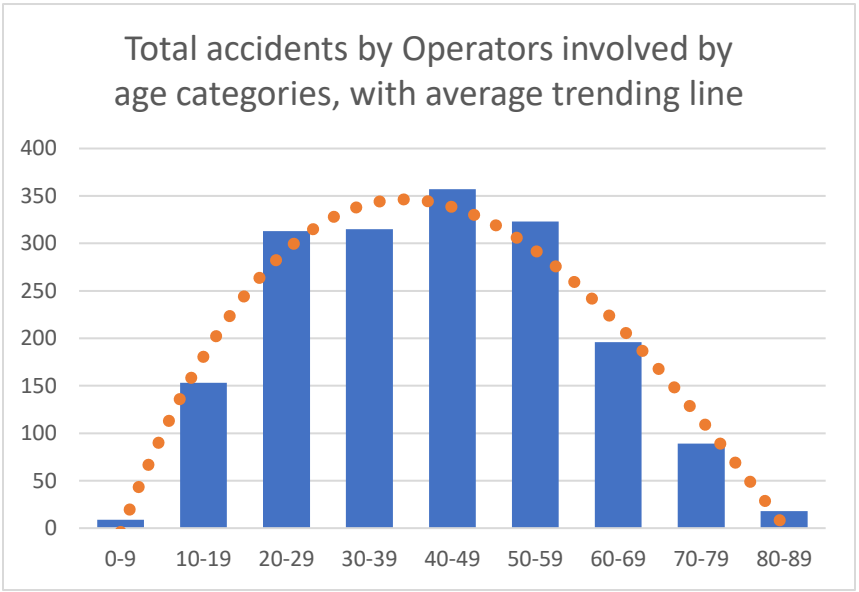
Other uncategorized factors also contributed to accidents with all vessel types.

Total Accidents by Cause of Accident by vessel type

	MOTORIZED	MOTO - PWC	MOTO - SLOW	HUMAN/WIN	MISSING/U
Operation of Vessel	501	238	178	193	18
Loading of Passengers	46	2	5	22	1
Failure of Boat	57	6	77	9	4
Environment	103	13	47	34	5
Miscellaneous	173	21	135	67	23

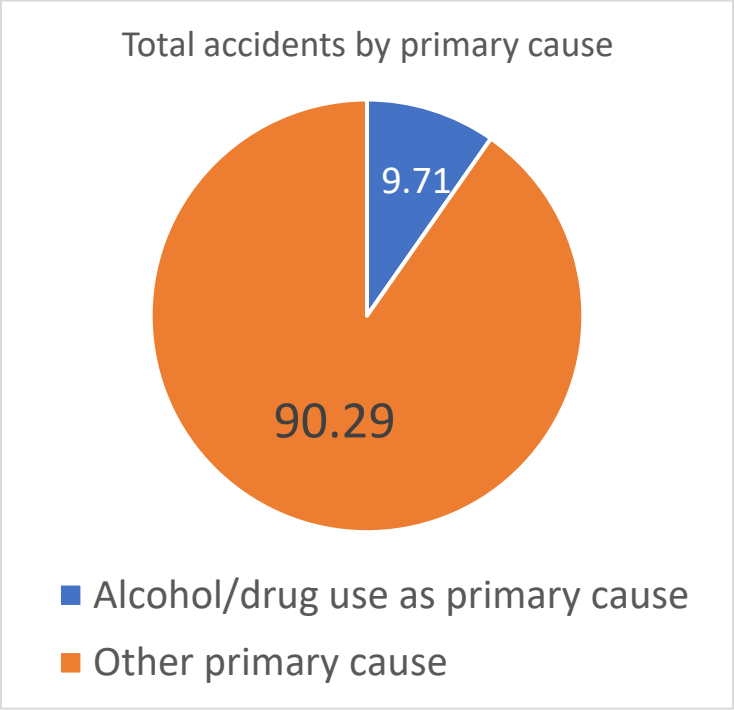


This graph shows the total number of accidents over the past 20 years by operator age. A trending line has also been included to show the average age of operator between the ages of 0 and 89. The mean age of operator involved in an accident was 42.27 years. Half of all accidents involved operators aged between 28 and 54 years.



Age Categories	
0-9	9
10-19	153
20-29	313
30-39	315
40-49	357
50-59	323
60-69	196
70-79	89
80-89	18

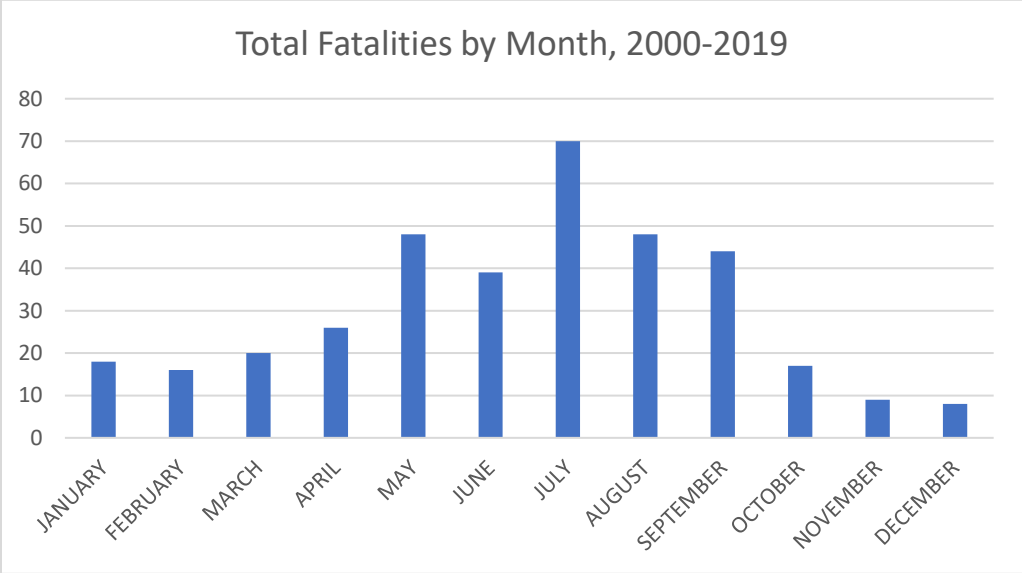
This graph shows the total number of accidents over the past 20 years, by operator age category. A trending line was included to show the average age of operator.



This graph shows the proportion of all accidents by primary cause, and whether alcohol or drugs were the primary accident cause. (**Note:** Primary accident cause was unknown for 6.58% of accidents not involving fatalities, and 13.08% of accidents involving fatalities.)

Furthermore, the proportion of alcohol/drug use as the primary cause rose to 22.74% for accidents that led to fatalities.

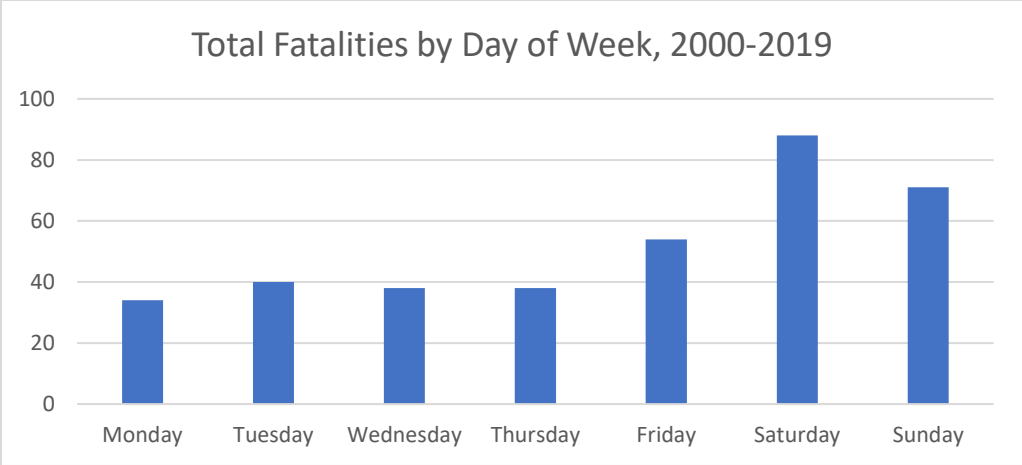
Section 7. Information on accidents involving fatalities



Total Fatalities by Month	
JANUARY	18
FEBRUARY	16
MARCH	20
APRIL	26
MAY	48
JUNE	39
JULY	70
AUGUST	48
SEPTEMBER	44
OCTOBER	17
NOVEMBER	9
DECEMBER	8

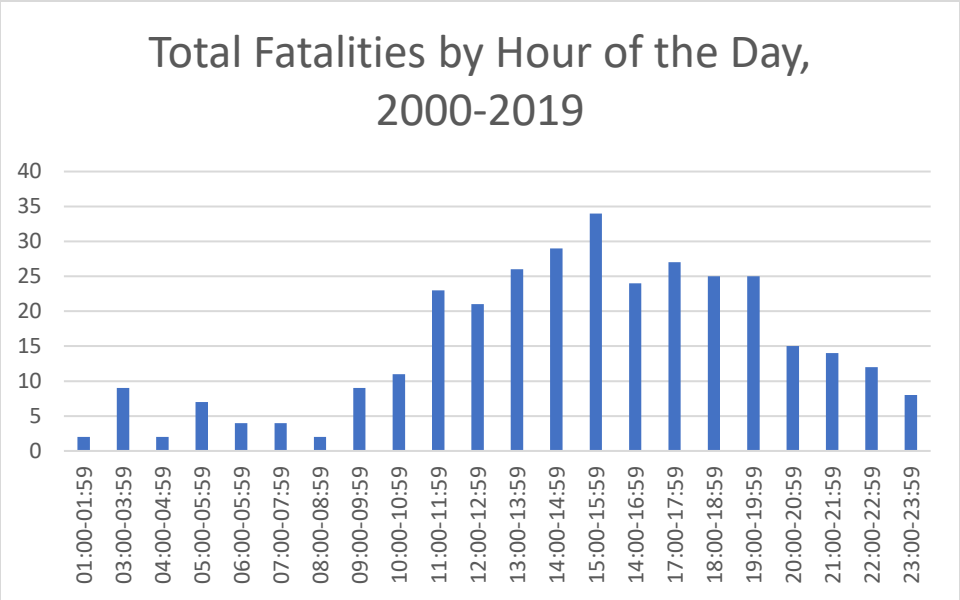
The month with the highest recorded number of fatalities between 2000 and 2019 was July. Even though May has a lower number of accidents than June, the number of fatalities in May is higher than in June.

November and December had the lowest number of fatalities of any month.



Total Fatalities by day of week	
Monday	34
Tuesday	40
Wednesday	38
Thursday	38
Friday	54
Saturday	88
Sunday	71

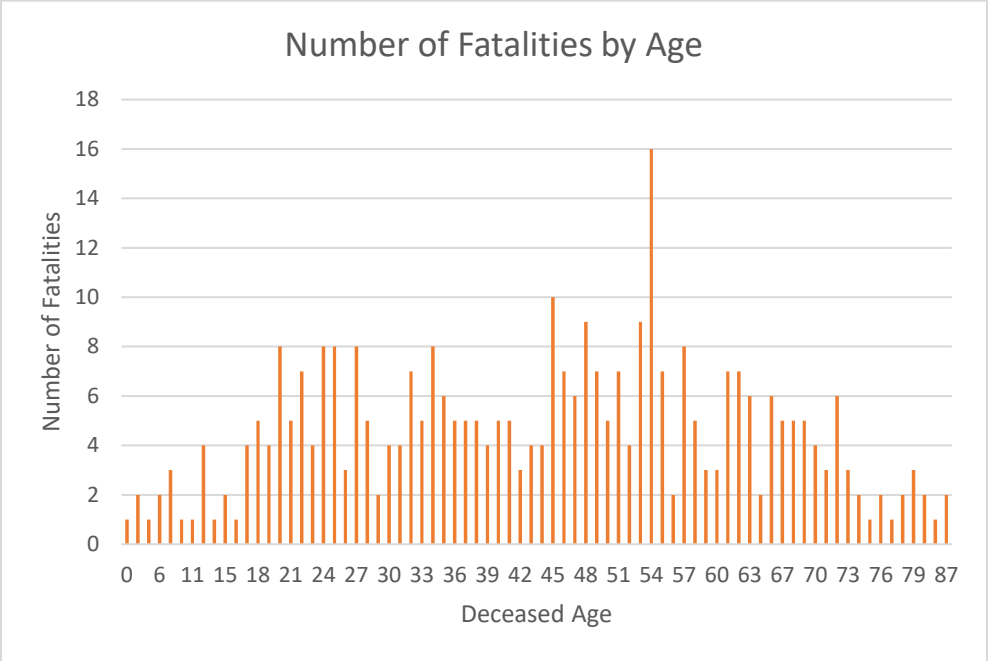
The weekends saw an uptick of accidents involving fatalities, with Saturday being the most common day with an accident resulting in a fatality. Monday was the least common day with fatalities, even though Tuesday had fewer accidents than any other day.



This graph shows the total number of fatalities by hour of the day. Note that data from midnight until 1am has been omitted from the graph, due to midnight being a data outlier (**Note:** data entered 00:00 erroneously). The graph shows that the highest number of fatalities have occurred between 3 and 4pm, with most fatalities taking place between 11am and 8pm.

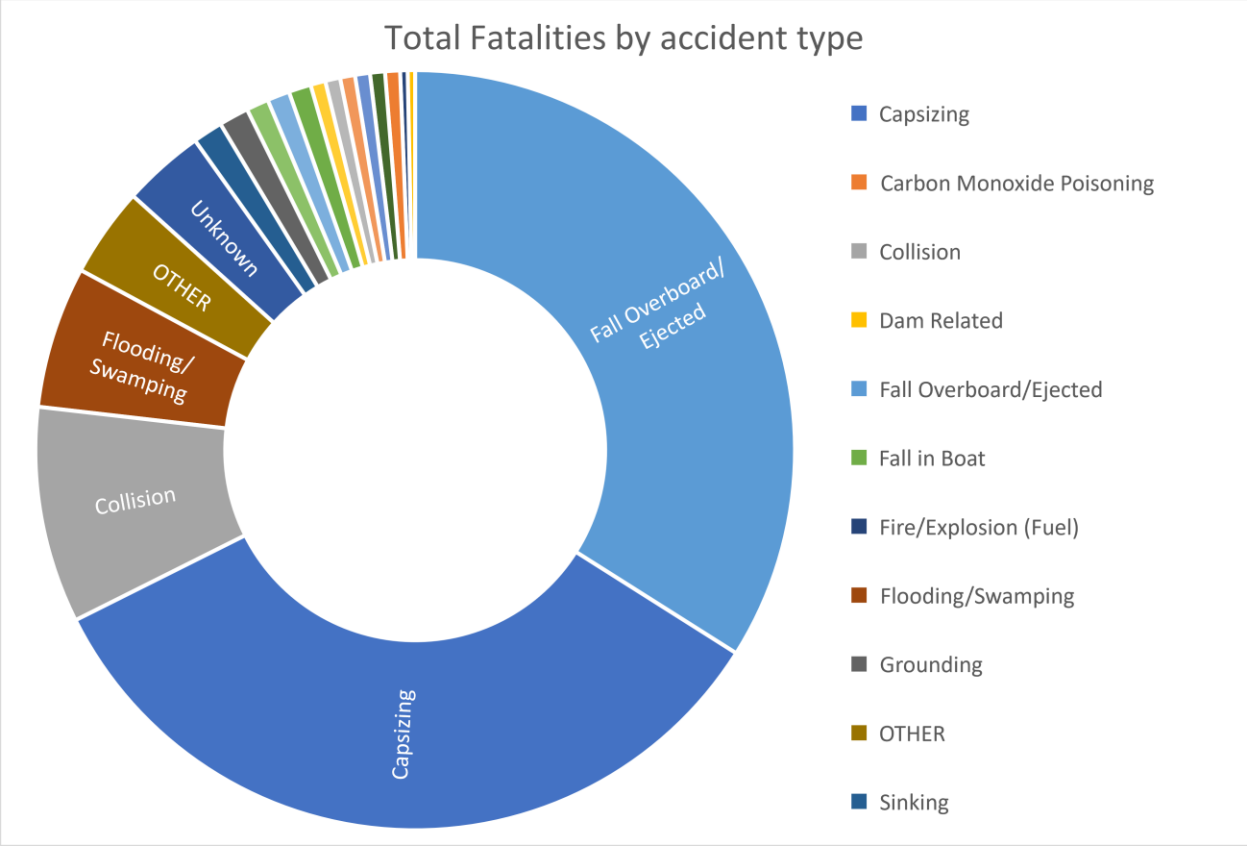
Total Fatalities by hour

00:00-00:59	18
01:00-01:59	2
03:00-03:59	9
04:00-04:59	2
05:00-05:59	7
06:00-05:59	4
07:00-07:59	4
08:00-08:59	2
09:00-09:59	9
10:00-10:59	11
11:00-11:59	23
12:00-12:59	21
13:00-13:59	26
14:00-14:59	29
15:00-15:59	34
14:00-16:59	24
17:00-17:59	27
18:00-18:59	25
19:00-19:59	25
20:00-20:59	15
21:00-21:59	14
22:00-22:59	12
23:00-23:59	8

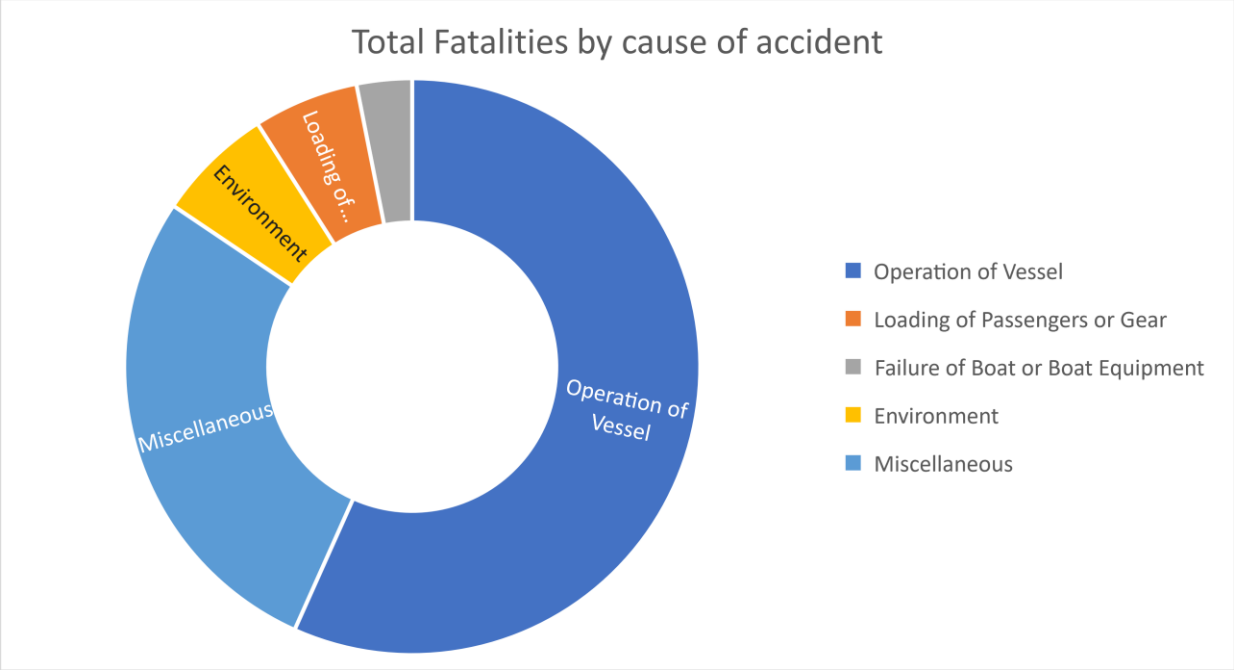


Age	Fatalities	Age	Fatalities
0	1	44	4
4	2	45	10
5	1	46	7
6	2	47	6
7	3	48	9
9	1	49	7
11	1	50	5
13	4	51	7
14	1	52	4
15	2	53	9
16	1	54	16
17	4	55	7
18	5	56	2
19	4	57	8
20	8	58	5
21	5	59	3
22	7	60	3
23	4	61	7
24	8	62	7
25	8	63	6
26	3	64	2
27	8	65	6
28	5	67	5
29	2	68	5
30	4	69	5
31	4	70	4
32	7	71	3
33	5	72	6
34	8	73	3
35	6	74	2
36	5	75	1
37	5	76	2
38	5	77	1
39	4	78	2
40	5	79	3
41	5	80	2
42	3	82	1
43	4	87	2

The graph above shows the total number of fatalities by the age of the deceased victim over 20 years.
The mean age of the deceased victims is about 44.03 years.



This graph shows the proportion of accident types, for accidents leading to fatalities on average between 2000 and 2019. The two most frequent categories of accident types are falling overboard/ejections and capsizing, with 107 and 106 total fatalities respectively. Collisions and flooding are the next two frequent accident types, with 29 and 19 fatalities respectively.

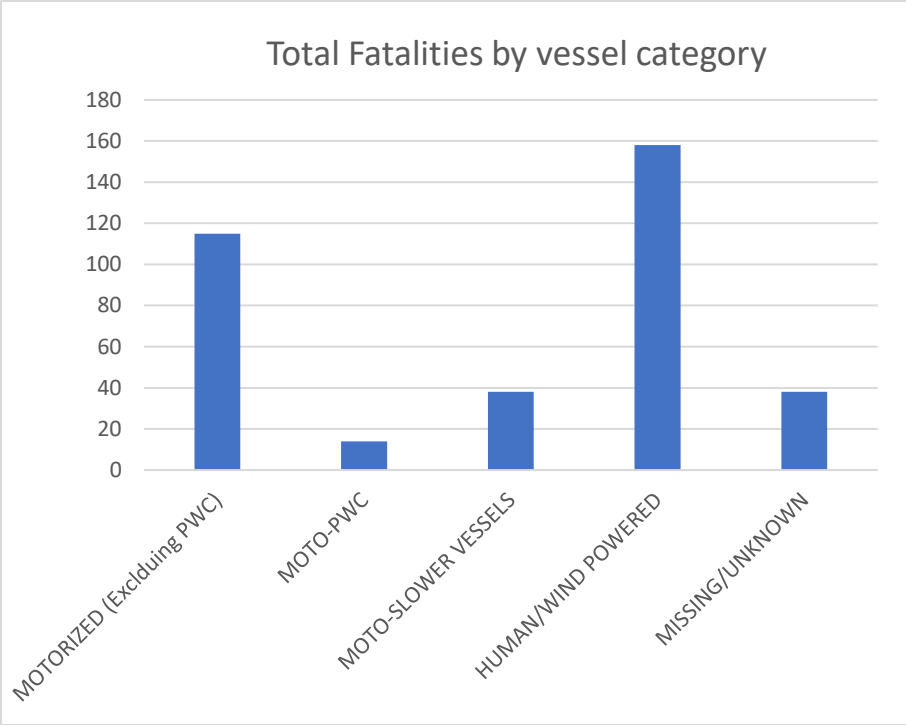


This graph shows the proportion of causes of accidents involving fatalities on average between 2000 and 2019. Operation of vessel was the leading cause, with 182 fatalities.

A further breakdown of the fatalities caused by failures with the operation of vessel shows that 40% of those fatalities were caused by Alcohol use, 20% were caused by issues navigating hazardous waters, and 21% were caused by Operator Inexperience. A further 10% was caused by Operator Inattention.

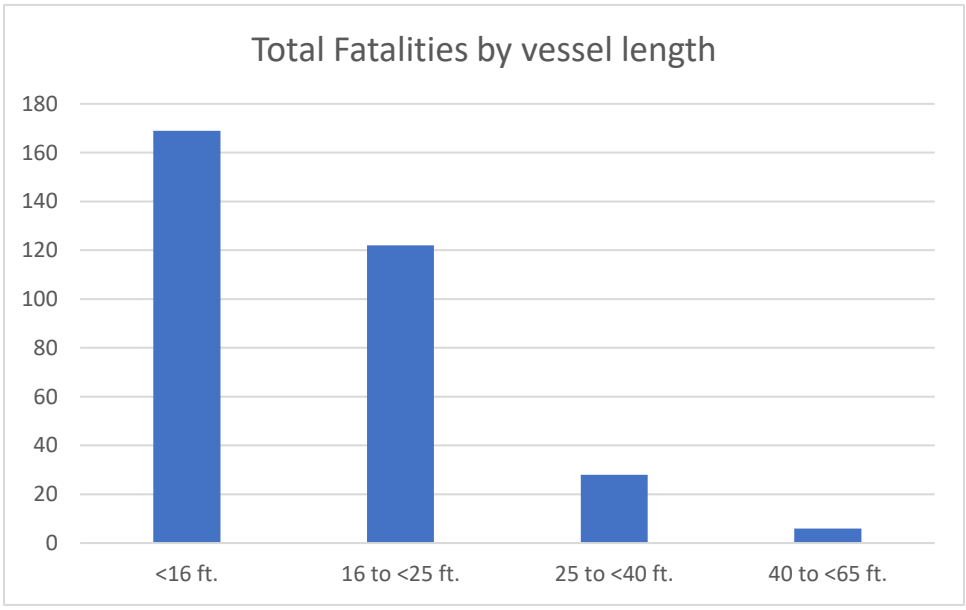
Total Fatalities by cause of accident	
Operation of Vessel	182
Loading of Passengers or Gear	19
Failure of Boat or Boat Equipment	10
Environment	21
Miscellaneous	89

Operator Cause	Number of Fatalities	Proportion of Fatalities
Alcohol Use	73	40.11
Excessive Speed	2	1.1
Hazardous Waters	37	20.33
Improper Lighting or No Lights	4	2.2
Navigation Rules Violation	1	0.55
Negligent Operation	6	3.3
No Proper Lookout	2	1.1
Operation Inexperience	38	20.88
Operator Inattention	17	9.34
Restricted Vision	1	0.55
Sharp Turn	1	0.55



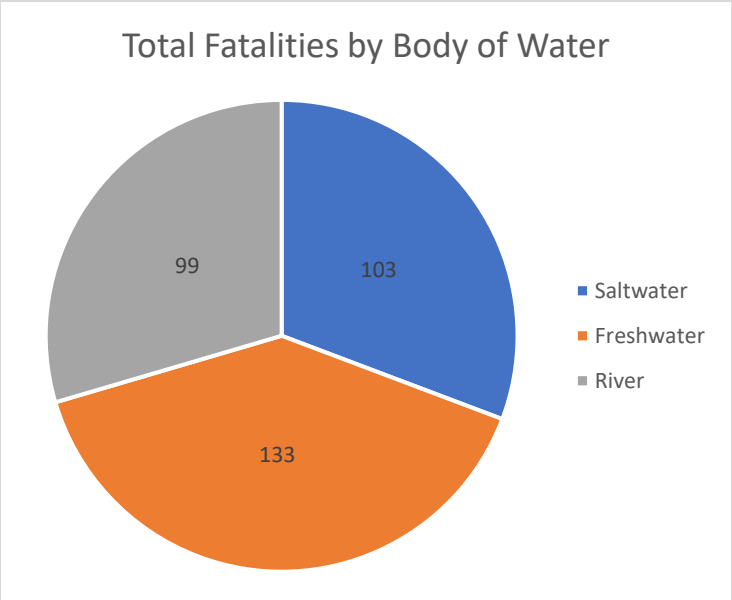
Total Fatalities by vessel category	
MOTORIZED (Excluding PWC)	115
MOTO-PWC	14
MOTO-SLOWER VESSELS	38
HUMAN/WIND POWERED	158
MISSING/UNKNOWN	38

This graph shows that the most common vessel category to result in fatalities over the past 20 years were human/wind powered vessels, followed by motorized vessels, slower motorized vessels, and PWCs.



Total Fatalities by vessel length	
<16 ft.	169
16 to <25 ft.	122
25 to <40 ft.	28
40 to <65 ft.	6
>65 ft.	0

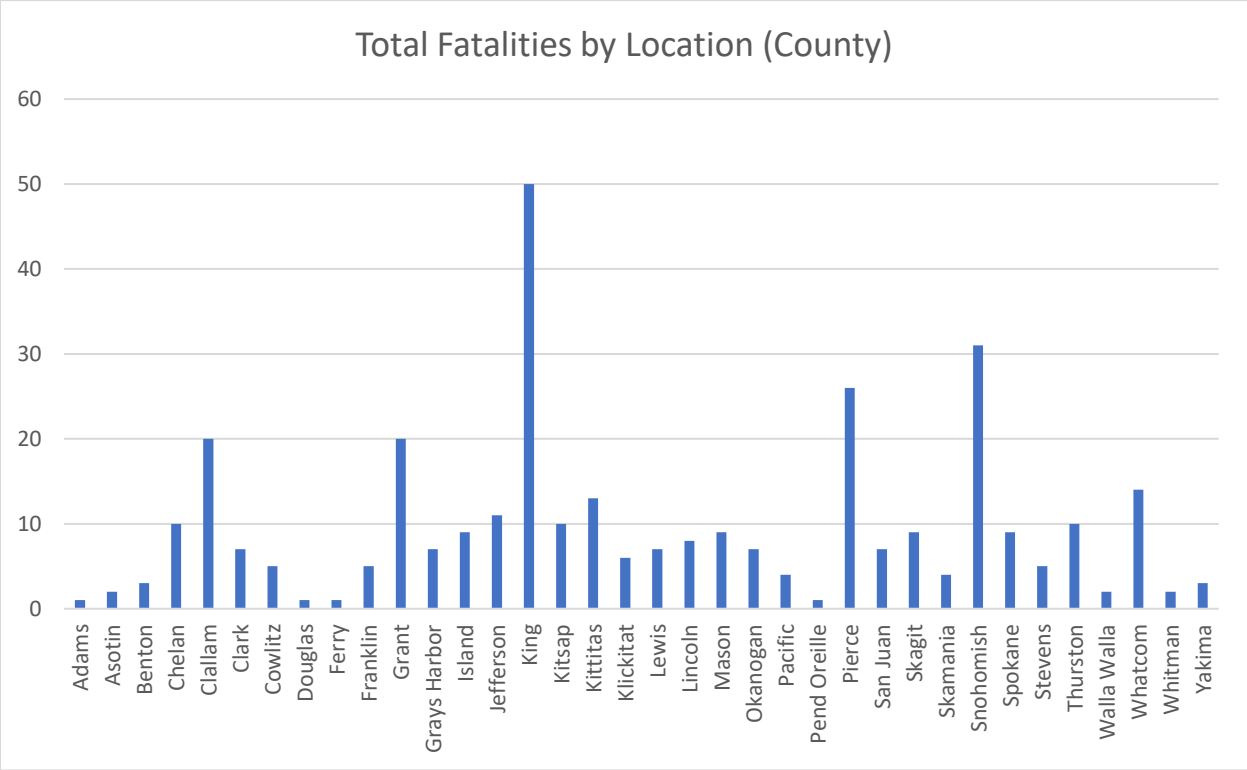
This graph shows the total number of vessels by vessel length category for the past 20 years. The greatest number of fatalities involve vessels less than 16 foot long, followed by vessels of length between 16 and 25 feet. Vessels between 25 and 40 feet have fewer fatalities, whereas vessels between 40 and 65 feet the fewest registered fatalities. Vessels over 65 feet have no reported cases of fatalities.



Total Fatalities by Body of Water	
Saltwater	103
Freshwater	133
River	99

Fatalities between 2000 and 2019 are almost equally distributed among all waterbody categories, with fatalities in freshwater being slightly more frequent than in saltwater or rivers, with 133 versus 103 and 99 respectively.

Section 8. Accidents and Fatalities by County



This graph shows the total number of fatalities by county. King county has the highest number of fatalities between 2000 and 2019. The lowest number of fatalities among the top ten were in San Juan and Skagit counties, with 7 and 9 fatalities respectively. It is noteworthy that Clallam County – which has the eighth most accidents – is tied with the counties with the third most fatalities.

Top ten counties for boating accidents (Cumulative) 2000-2019

	King	Snohomish	Pierce	Grant	Chelan	Kitsap	San Juan	Whatcom	Clallam	Skagit
Accidents	432	209	163	162	111	109	97	81	72	70
Fatalities	50	31	26	20	20	10	7	14	20	9
Injuries	144	55	67	76	55	37	29	19	24	27

Total accidents by vessel Type by County

VCAT	King	Snohomish	Pierce	Grant	Chelan	Kitsap	San Juan	Whatcom	Clallam	Skagit
Motorized	191	74	69	86	38	34	54	36	28	31
PWC	32	19	39	49	57	2	0	4	1	7
MOTO-slow	123	78	26	8	5	49	35	15	28	24
Human/Wind	64	33	21	11	10	20	6	24	9	7
Unknown Vessel	22	5	8	8	1	4	2	2	6	1

While King County has the most accidents of any county, Chelan County has the most accidents with Personal Watercraft (PWC).

Average vessel length, and average total damages, by County

	King	Snohomish	Pierce	Grant	Chelan	Kitsap	San Juan	Whatcom	Clallam	Skagit
Length	24.92	22.95	20.03	16.36	13.88	28.91	32.92	21.21	24.16	23.92
Total Damages ($)	10397.47	9426.68	5141.23	3840.72	2146.18	12252.50	13870.87	6455.56	21093.61	8748.74

The longest average vessel length for vessels involved in accidents were found in San Juan County, with an average length of 33 feet, whereas Chelan County had the shortest average, with an average length of 14 feet. The highest average total damages were in Clallam County, with average total damages of $21,093.

Total accidents Primary Cause by County

Primary Cause	King	Snohomish	Pierce	Grant	Chelan	Kitsap	San Juan	Whatcom	Clallam	Skagit
Operation of Vessel	210	98	92	85	76	43	46	35	24	36
Loading of Passengers or Gear	13	6	3	5	5	2	3	3	2	5
Failure of Boat or Boat Equipment	32	24	8	9	2	10	9	5	9	5
Environment	46	17	13	17	4	10	11	7	13	7
Miscellaneous	85	42	23	26	6	34	21	21	20	14

Across the top ten counties, operation of vessel is the most common cause of accidents. The highest number of accidents that were caused by the operation of vessel were in King County, followed by Snohomish and Pierce counties.

Total accidents Primary Type by County

Primary Type	King	Snohomish	Pierce	Grant	Chelan	Kitsap	San Juan	Whatcom	Clallam	Skagit
Capsizing	40	20	13	9	10	13	2	9	12	4
Carbon Monoxide Poisoning	1	1	1	0	0	0	0	0	0	1
Collision	179	65	61	58	57	41	31	20	15	26
Departed/Ejected from a Vessel/ Falls	13	6	3	8	3	1	3	1	1	0
Fire/Explosion	29	20	7	4	1	13	3	4	4	5
Fall in boat/on vessel	35	12	12	10	7	7	9	10	4	5
Struck by Boat/Propeller/Propulsion Uni	24	15	9	12	7	5	11	6	1	5
Flooding/Swamping	19	19	16	11	2	8	6	8	11	9
Grounding	6	9	5	11	1	3	17	4	8	6
Sinking	9	9	1	1	1	5	1	6	3	0
Skier/Swimmer	13	3	8	11	3	1	0	4	0	6
Sudden Medical Condition	1	1	1	0	0	0	0	1	0	0
Other/Unknown	4	0	0	0	1	2	2	1	1	0

Collision was the most common type of accident in the top ten counties between 2000 and 2019. The highest number of collisions took place in King county, followed by Snohomish and Pierce counties. Other common types of accidents include capsizing, fire/explosion, falling in or on a boat/vessel, struck by boat/propeller/propulsion unit, and flooding/swamping.

Appendix 1

Logistic Regression Predicting Fatalities from all reported accidents, 2000-2019.

VARIABLES	DECEASED
YEAR	1.034*
	(0.019)
ALCOHOL OR DRUGS = 1, Yes	4.552***
	(1.001)
ALCOHOL OR DRUGS = 9, Unknown	16.323***
	(7.984)
VCAT = 2, MOTO-PWC	0.089***
	(0.046)
VCAT = 3, MOTO-SLOWER VESSELS	1.311
	(0.377)
VCAT = 4, HUMAN/WIND POWERED	1.923**
	(0.522)
VCAT = 9, MISSING, omitted	-
LENGTHCAT = 2, 16 to <25 ft.	0.535**
	(0.137)
LENGTHCAT = 3, 25 to <40 ft.	0.107***
	(0.047)
LENGTHCAT = 4, 40 to <65 ft.	0.195**
	(0.136)
LENGTHCAT = 5, 65 or greater, omitted	-
OPERATOR_AGE	1.016**
	(0.006)
OPERATOR_GENDER = 1, Male	1.288
	(0.441)
NUMBER_ON_BOARD	0.881**
	(0.052)
ESTIMATED_SPEED = 1, 1-10 mph	1.311
	(0.328)
ESTIMATED_SPEED = 2, 11-20 mph	0.368**
	(0.162)
ESTIMATED_SPEED = 3, 21-30 mph	0.671
	(0.263)
ESTIMATED_SPEED = 4, 31-40 mph	0.914
	(0.427)
ESTIMATED_SPEED = 5, 41-60 mph	8.388***
	(4.593)
ESTIMATED_SPEED = 6, 61-80 mph	1.106
	(1.424)
VESSEL RENTED = 1, Yes	0.250**
	(0.176)
Constant	0.000*
	(0.000)
Observations	1,205
r2_p	0.291

Appendix B: PADDLE 2021-2 Outreach to Paddlecraft Liveries & Retailers Best Practices, Paddesports 2021 Retailer Manager Training PowerPoint

RETAIL PADDLESPORTS SAFETY

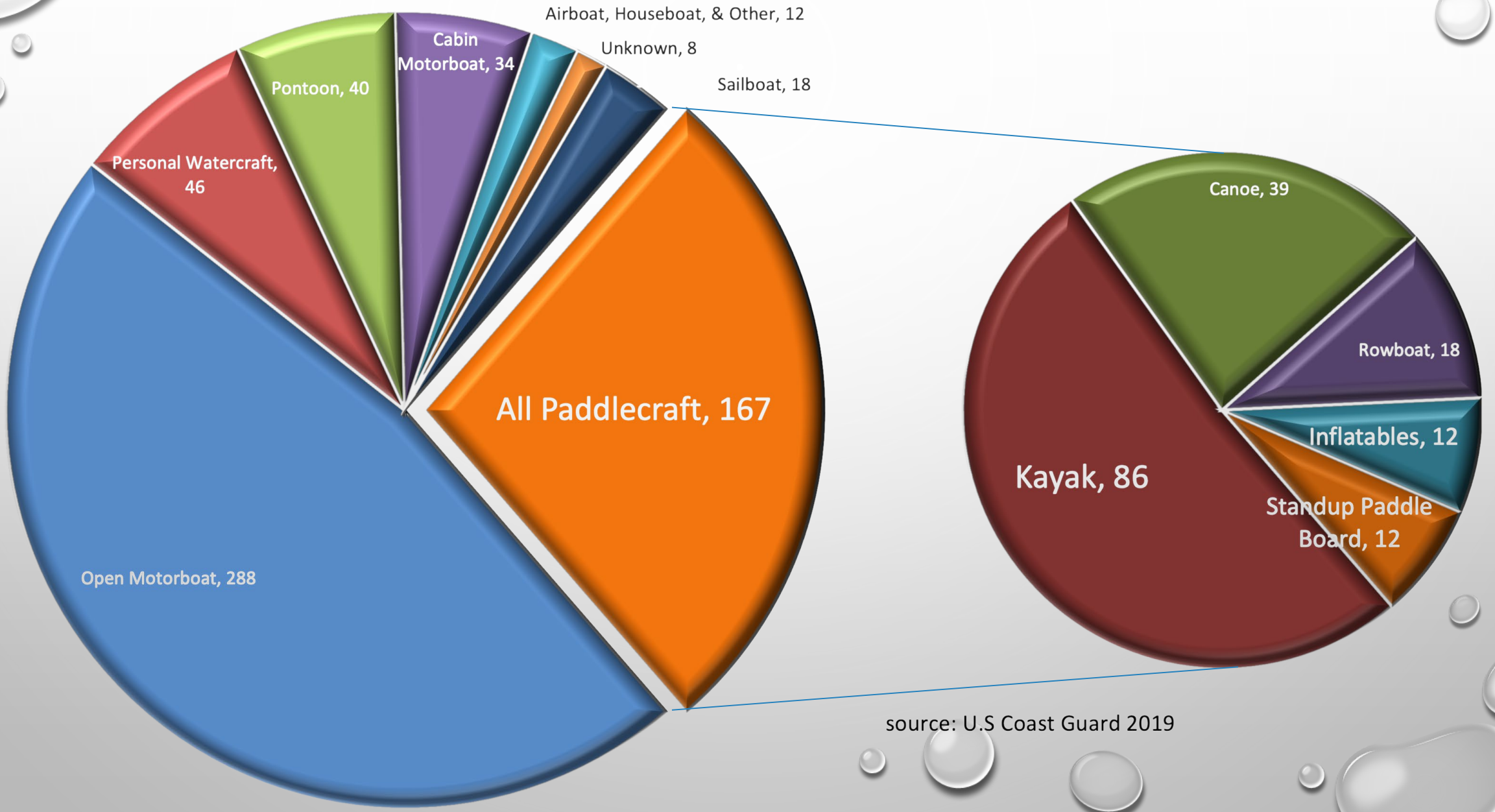
PRESENTED BY

TRAINING AND EXPERIENCE MATTERS

- NEARLY 75% OF ALL PADDLESPORTS CASUALTIES INVOLVE PADDLERS WITH LESS THAN **100 HOURS OF EXPERIENCE.**
- NEARLY 45% OF ALL PADDLESPORTS CASUALTIES INVOLVE PADDLERS WITH LESS THAN **10 HOURS OF EXPERIENCE.**

Source: U.S. Coast Guard 2019

2019 U.S. DEATHS by VESSEL TYPE



source: U.S Coast Guard 2019

CONCLUSIONS

- PADDLING DEATHS COMPRISE NEARLY *ONE-IN-EVERY-THREE* (27.2%) BOATING DEATHS.
- OF THEM, MOST ARE KAYAKERS, BUT STAND-UP PADDLEBOARD INCIDENTS ARE INCREASING DRAMATICALLY (UP 140%).
- 86.2% OF PADDLERS THAT DIED, DROWNED.
- PADDLER INEXPERIENCE REMAINS AS A LEADING CONTRIBUTOR TO CASUALTIES.

CONCLUSION: NEW PADDLERS ARE FAR MORE LIKELY TO BECOME A PADDLING CASUALTY.

HOW CAN I HELP?

- KAYAKS, STANDUP PADDLEBOARDS AND CANOES ARE CONSIDERED ”VESSELS” BY THE U.S. COAST GUARD AND EVERY STATE.
- PADDLERS ARE REQUIRED TO, AT LEAST, CARRY A COAST GUARD APPROVED LIFE JACKET ON BOARD.

REMIND CUSTOMERS ABOUT THE REQUIREMENT TO CARRY A LIFE JACKET AND THE IMPORTANCE OF TAKING A PADDLER EDUCATION COURSE.

- THE U.S. COAST GUARD ENCOURAGES PADDLERS TO ENROLL IN A “SAFE PADDLER” COURSE AVAILABLE ONLINE OR IN-PERSON IN EVERY STATE.

RESOURCES

- NATIONAL ASSOCIATION OF STATE BOATING LAW ADMINISTRATORS
- SAFE BOATING CAMPAIGN
- WATER SPORTS FOUNDATION
- U.S COAST GUARD

THANK YOU

Appendix C: PADDLE 2021-4 Microlearning, Resource Documents

Accidents happen even to the most competent paddlers. Sometimes paddlers just need assistance flipping over their boats and getting back in. Other times, an accident is a sign that paddler should not be on the water. Below is a matrix to use to help decide whether to send the paddler on their way or assist them back to shore.

Is the paddler:

- Injured or do you suspect injury?
- Suffering from environmental effects (sun burn, heat exhaustion, or hypothermia)?
- Intoxicated or under the influence of drugs?

Yes to any of these questions should mean the paddler goes back to shore.

Does the paddler:

- Have the proper equipment for the area and type of water?
- Have a way to call or signal for help should something else go wrong?
- Seem to have an adequate understanding of the risks in the area and know of local hazards?

No to any of these questions should mean the paddler goes back to shore.

Are any risk factors increasing that are outside of the paddlers control? Power boat traffic, waves, wind, temperature changes, tides?
Yes means paddler goes back to shore.

If you feel comfortable with the paddlers' safety and competency after processing through this matrix, assist them using best practices and allow them to continue their paddle.

OHIO DIVISION OF WATERCRAFT BASIC MARINE PATROL TRAINING COURSE

SWAMPED CANOE/SMALL VESSEL CHECK-OFF SHEET

Student:_____ Date:_____

Instructor:_____ Location:_____

	Did the student:	Yes	No
1	Operate patrol vessel with caution and due regard to traffic and area		
2	Approach swamped vessel cautiously from downwind, down current or both		
3	Account for all persons from capsized vessel		
4	Approach persons in the water cautiously		
5	Maneuver close enough to throw a Type IV device and/or throwbag Direct person to grab device or line		
6	Shut off patrol boat engine once near the person in the water and while pulling person into patrol boat		
7	Recover all persons from the water and load onto patrol boat		
8	Check persons for injuries, summon medical help if needed		
9	If persons are missing, mark the position with a marker buoy		
10	Begin search for missing persons using all assistance available		
11	Roll the swamped vessel upside-down and lift one end of the vessel onto the gunwale of the patrol boat		
12	Officer(s) carefully slide the vessel across the gunwale of the patrol boat until all the water is drained out		
13	Roll the vessel upright and slide back into the water		
14	Obtain all necessary information to complete needed paperwork/BAR		

OHIO DIVISION OF WATERCRAFT BASIC MARINE PATROL TRAINING COURSE

SWAMPED CANOE/SMALL VESSEL CHECK-OFF SHEET (continued)

	Did the student:	Yes	No
15	Assist persons back into their vessel if able to continue boating or assist persons in getting back to shore		