

2024 ACA Helmet Survey Results



The Strategic Plan of the U.S. Coast Guard’s National Recreational Boating Safety Program has several major initiatives including “Leverage recreational boating data.”

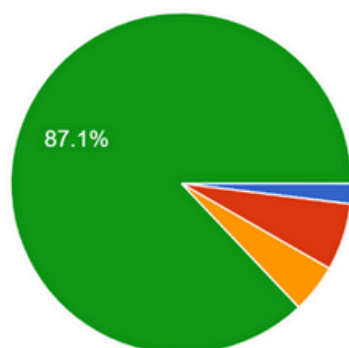
ACA has a long history of developing paddling safety materials and supports safety-oriented initiatives that lead to better educational resources. Accurate and relevant data about paddling accidents is essential both for public policy decisions and to determine what type of education is most appropriate in our paddling communities.

In March of 2024, the ACA distributed a survey titled, “**Paddling Accident and Safety Equipment Survey - Helmets.**” This survey was created to gather information regarding the frequency and type of head, face, and neck injuries among paddlers.

The information and graphics below illustrate the posed questions and results, which included 521 respondents.

What best describes the environment in which you most often paddle?

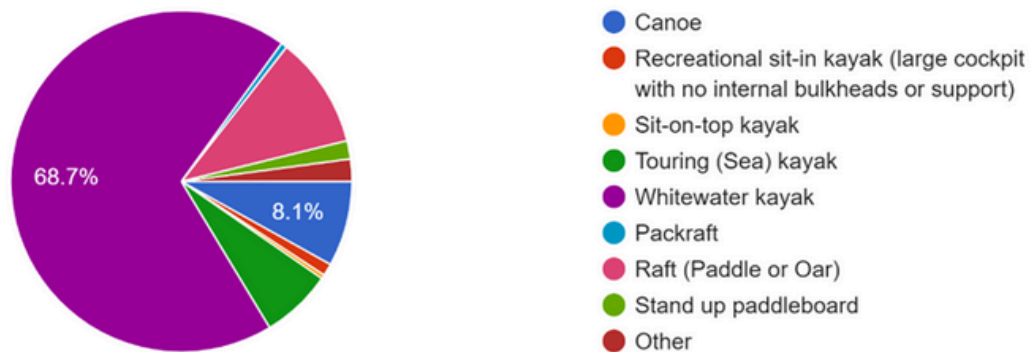
519 responses



- Calm, protected waters where wind or currents are unlikely to push you from shore and where swimming or wading...
- Open water, including surf, where wind or currents might push you offshore or to a place where swimming to shore is n...
- Moving water without rapids, where current will move you downstream
- Whitewater, where current will move you downstream into rapids and obstructions

What type of boat do you most often paddle?

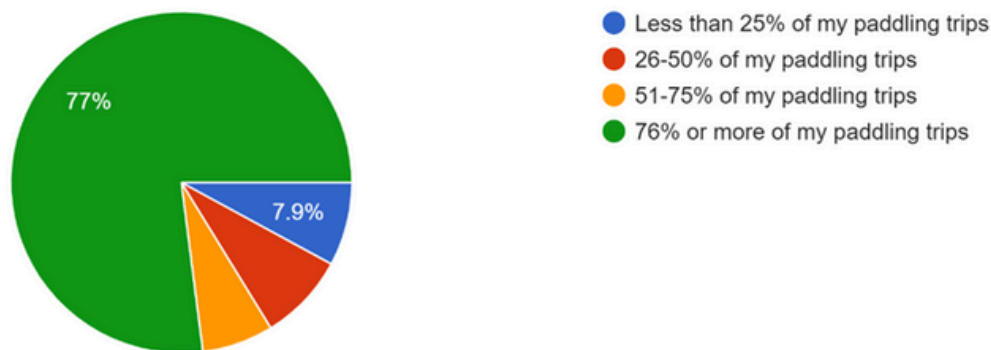
520 responses



More than three-quarters of the respondents wear helmets most of the time when they paddle. More than 90% wear a helmet at least some of the time when they paddle.

How often do you wear a helmet paddling, in a typical year?

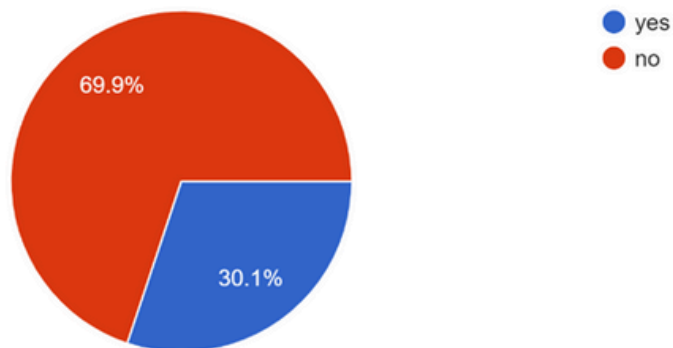
518 responses



Although about 30% of respondents have tried using helmets with face masks, less than 7% currently use them.

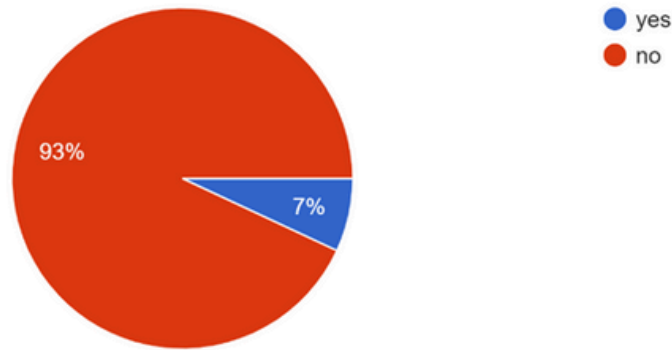
Have you ever used a helmet with a face mask while paddling?

501 responses



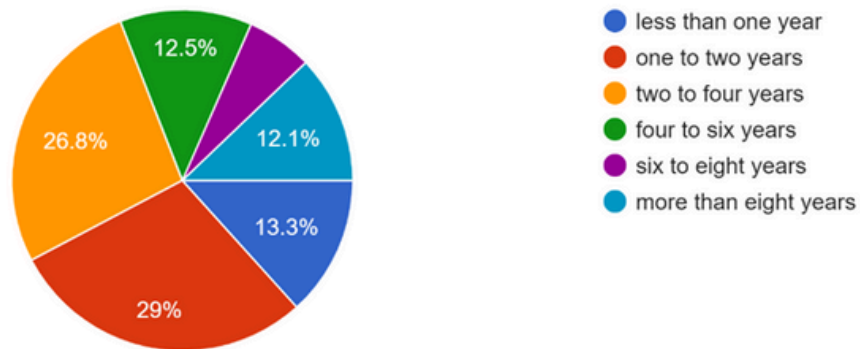
Does the helmet you typically wear while paddling have a face mask?

489 responses



How old is the helmet you most frequently wear?

511 responses



Nearly half the respondents reported their helmet is four or more years old.

How frequently do you typically replace your helmet?

516 responses



About two-thirds of respondents replace their helmet based on factors other than age, including frequency of use, number of impacts, and visible damage after impact.

Have you ever had a paddling-related facial injury that, in your opinion, would have been prevented if you were wearing a helmet with a face mask? If you h...a facial injury, please leave this question blank.

395 responses



Summary and Discussion

Of the 520 replies to the survey question, “Have you ever had any kind of head or neck injury when paddling?”

- 280 people (54% of respondents) reported never having a head or neck injury over the course of their paddling career
- 109 (21%) reported a facial laceration
- 99 (19%) reported neck strain
- 85 (16%) reported a concussion
- 46 (9%) reported facial bruising or broken facial bones
- Less than one percent reported spinal vertebrae fractures
- 98 respondents reported more than one head and neck injury, with a few reporting 6 or more

The survey did not assess the severity of head injuries.

Of the 287 replies to the question, “Were you wearing a helmet when the injury occurred?” 89% were wearing a helmet when the injury occurred.

Although it seems self-evident that helmets protect from injury – it is clear that helmets do not protect from all injuries. This is consistent with other sports in which helmet research has been conducted, including football and mountain biking.

Information from the National Boating Accident Reporting Database (BARD) shows paddlers rarely report head injuries. However, submissions from ACA members suggests that head injuries are relatively common. Only 54% of respondents reported never experiencing a head injury while paddling. Survey responses were strongly biased towards whitewater kayakers and cannot be extended to the entire paddling community. They do, however, show that head, neck, and facial injuries may be more common than other data sources might suggest. The survey trends are consistent with prior research showing that boaters of all kinds do not report all boating accidents. For example, the Coast Guard estimates that BARD – a database produced through reporting by state Boating Law Administrators - may underestimate minor boating injuries by 10 to 100-fold.

Boaters are required to report accidents meeting criteria including:

- Destruction of a boat
- More than \$2000 of damage resulting from a boating accident
- A fatality occurs while boating
- An injury occurs while boating that requires more than first aid care

More serious accidents and fatalities are more likely to be investigated by law enforcement officials who would complete official reports. Less significant accidents and injuries are less likely to be reported. Accident reporting requirements often are not covered by paddling courses. There may be an opportunity to improve the collection of boating accident information by improved reporting by paddlers.

Finding a helmet that fits properly was the most common complaint about helmets. Many paddlers reported difficulty finding helmets large or small enough to fit comfortably, or difficulty finding helmets shaped in a way that allowed comfortable wear. Sweet Protection, Shred Ready, and WRSI were the brands most often used by respondents. Manufacturing defects were reported from all of these brands, and users of each brand reported head, neck, and face injuries while wearing a helmet.

Survey replies suggest several important conclusions about paddling helmets:

1. Helmets protect against some head injuries. More than half of respondents reported an impact that damaged their helmet but not their head. Wearing a helmet when there is a risk of head injury is an important part of safe paddling.
2. Helmets do not protect against all head injuries, consistent with research conducted in other sports. For example, although helmets may reduce the risk of a concussion, they can never fully prevent concussions.
3. Head injuries among whitewater paddlers appear to be more common than the Boating Accident Reporting Database (BARD) suggests. Paddlers should report injuries requiring care beyond first aid to provide better data. However, the Boating Accident Reporting Database is believed to collect information about most boating fatalities. The database suggests the risk of fatal head injury while paddling is very low.
4. About a third of respondents have tried helmets with face masks, but less than a quarter of those who try them continue to use them. Within the paddling industry, some argue that face masks increase the risk of entrapment whereas others argue they provide valuable protection against facial injury. Others argue that there is a low risk of significant facial injuries that would be prevented by a face mask.

These results suggest helmet manufacturers could improve paddling safety by:

- Exploring helmet designs and manufacturing processes to reduce the risk of head and neck injuries
- Providing a wider range of sizes and adjustment tools to fit different head shapes
- Exploring helmet designs that reduce the risk of facial injuries, including but not limited to the addition of face masks

ACA currently works with organizations including the Water Sports Foundation, the National Association of State Boating Law Administrators, the US Coast Guard, and the US Coast Guard Auxiliary to promote education for recreational paddlers. ACA staff and leaders are continue to develop additional resources to better support entry-level paddling education. Free resources can be found: <https://americancanoe.org/resource-library>.

Special thanks to ACA members Jim Mazzola and Robin Pope for their hard work on this study.