

The use of propeller guards for dive safety: A cure-all or a palliate?

The [Propeller Injury Prevention Campaign](#), which DAN launched 10 years ago, is being reintroduced this year, and is stirring up great involvement among divers of every nationality, who continue to spread the word through social media, and send us suggestions and personal accounts.

Followers of our Facebook page strongly suggest the use of a propeller guard, even considering it mandatory, in the prevention of fatal accidents and disabling injuries.

We present you with various facets of this issue by looking at critical comparisons from different experts (**Giovanni Cozzi, Gaetano Occhiuzzi, Riccardo Lattanzi** and diver & sailer **Alessandro**). Here are what our interviewees think:

In your experience, could a propeller guard help reduce fatal accidents among divers?

G.C. I think not. A slower boat should allow the skipper to avoid such obstacles or reduce the speed at which the impact on a diver occurs. If mounted on a speedboat the intensity of the impact changes very little.

G.O. I find propeller guards useful, but I don't believe them to be a solution. The danger of a fatal impact begins at the bow or the lateral section of the hull; at high speeds even the initial collision with a diver can be fatal. Only after that, at the end of boat, will the diver come in contact with the propeller.

However, the propeller guard is useful when coming in contact with a boat moving in reverse or sideways, though these kinds of accidents are much less frequent than those with boats moving at high speeds.

R.L. The propeller guard was invented for use in very dirty waters, or those with a high content of algae, to prevent residue from getting stuck in the propellers, and it functions only at reduced speeds.

I don't think that this can be a completely reliable solution because the boat's impact on a diver could have equally devastating consequences.

What do you think about the proposal to make propeller guard installation mandatory for every type of boat (comparable to the use of airbags in automobiles)?

G.C. It's a proposal that will be met with a lot of adversity, both from its users and the shipyards. Propeller guards on speedboats can provoke cavitation and proliferation of organisms, lessening the efficiency of the propeller. The consequence: slower ship speed, increased consumption and obviously higher costs. It would lead to a need to install more powerful motors, causing additional economic strain.

G.O. I'm not much in agreement with those kinds of proposals. It would result in the need for additional equipment, probably not understood by most, that would allow for one of the many good reasons to increase fines for those at sea.

R.L. Making the installation of these devices mandatory wouldn't have the expected results

Do you have any other comments on this topic?

G.C. Yes, there are two:

- The propeller guard is just a drop in the ocean. Why don't we instead talk about the necessity of education and, above all, sanctions? The regulations exist. Let's encourage the Coast Guard to be less concerned about liability insurance and boxes of medicine, and more concerned about enforcing the correct distances from divers' buoys.
- In all boats with transmission shafting, it would not be possible to check the use of a propeller guard without appointing professional divers to carry out the inspection.

G.O. Certainly. These kinds of accidents are usually caused by those who are poorly prepared in handling a boat expedition, or from the carelessness with which they are steering the boat. If all those at sea had a certain knowledge of the matter, many accidents would be avoided, and you would not see boats with the stern anchored or moored.

R.L. I think it is important that various actions are taken:

- **Information.** Your commendable initiative, which uses flyers and stickers to promote the safety campaign, could be implemented by involving public offices and private companies in the creation of road and port billboards, tv and radio advertising, and online banners.
- **Diving centers.** It would be auspicious to create an association that would become the reference point for building relations with public offices, and dealing with relative diving issues (among these, propeller-related accidents).
- **Buoys.** Support the installation of mooring buoys that signal diving spots (using internationally recognized symbols); this would have a double advantage: reducing anchoring and allowing unmooring in the case of emergency.
- **Boats speed** and distance from the coast. Encourage coastal municipalities, in accordance with maritime and port authorities, to institute the placement of signals in high-risk areas, at the determined safety distance from the shore. This will reduce the number of high-speed boats that pass and, consequently, the number of accidents.
- **Diving buoy.** Sometimes waves or sun glare hinders the skipper's view of the diving buoy at 300 meters, the distance established by regulation. It would be advantageous to abolish the use of the buoy, substituting it with an inflatable, red, vertical buoy of at least 1.5 m height. If every diver had the same signal, recognizing and identifying it would be easier.
- **Divers' standard flag signal.** It'd be a good idea to use standard measures for the red flag with a white diagonal stripe. The Alfa flag from the International Code of Signals refers to international practices that should be accurately verified.
- **Boats without a license.** In some countries, regulations allow some kinds of boats to be piloted without a license. This situation exposes divers and swimmers to serious risks. The boats that do not require a license should have a sign placed in plain sight on the gangplank, including the 10 most important rules for navigation safety.

Alessandro, who's both a diver and a recreational sailer, says: Propeller guards do not resolve the problem; a propeller guard can be as traumatic as the propeller itself if the boat is moving at high speed. It can be of partial protection in the case of a very small propeller. In addition, for a propeller guard to be really effective, it must be fully encompassing to drastically reduce the effects of the motor propulsion system, and it would not be applicable on all types of motors, such as some of those used for sailboats.

By only emphasizing propeller guards in the campaign, you risk diverting attention from the most important factor, which is a better understanding of safety at sea.

Propeller guard, yes or no? The debate remains open. However, there exists an overall common denominator on the issue... how essential it is to further promote a culture of safety, on all levels.

Read our [safety rules](#) for divers and boaters

[Get involved](#) in DAN's propeller injury prevention campaign

Send your opinions and/or experiences regarding propeller guards to: editor@alertdiver.eu

Meet the experts

Giovanni Cozzi, Engineer, ADISUB (Association of Diver Training Organisations, Italy)

Gaetano Occhiuzzi, President, IDEA Europe

Riccardo Lattanzi, sea rescue expert

Alessandro, diver and recreational sailer