



Pic: Weather front approaching © Bert Wiklaund

IN THE THICK OF IT

Navigating your boat in fog can be one of the most challenging (and scary) experiences you will ever face as a boater. **Words: Paul Glatzel**

i **NAME:** Paul Glatzel. **PROFESSION:** RYA Powerboat Trainer and Examiner and runs Powerboat Training UK.
LOCATION: Poole, Dorset, UK **CONTACT:** www.powerboattraininguk.com

Knowing what to do and how best to keep your crew and boat safe in fog is a key aspect of developing as an experienced boater. If there is one key rule about fog it's that if you can avoid being out there, then do so. If fog is forecast then you should avoid going afloat. Of course, some commercial operators will have no choice but to be out there, but if they are they must know what to do, be experienced and have the kit needed to keep themselves safe – more often than not, that means radar. The risks of helming a craft in fog are far higher: other vessels can be difficult to pinpoint and their skippers may be inexperienced and disorientated. Fog may be forecast but as a skipper

you should understand when and why fog is caused so you have a better understanding of when it could be more likely to occur.

THE MAIN TYPES OF FOG ARE:

RADIATION:

- Caused by rapidly cooling land where warm moist airstream exists.
- Tends to occur overnight.
- Disperses as sun rises and heats land.
- Common in autumn and winter.

ADVECTION (OR 'SEA FOG'):

- Caused by warm moist air passing over cold water.
- Higher winds (F4/F5) or drier airstream needed to clear it.
- Common in late spring and early summer.

The actions that you should take as a skipper are clearly explained in the 'Collision Regulations' (more properly known as the 'International Regulations Preventing Collisions at Sea').

You must keep a good lookout by 'all available means'. Obviously this starts with your eyes (and those of everyone else on board), but of course, in fog this method is somewhat limited! However, the thickness of fog varies and it is easy to forget to use your eyes and simply use whatever electronics you have on board. Use everything. In fog, typically the seas are calmer, so stopping your vessel and listening for other craft regularly makes real sense.

With the cost of radar sets reducing and the quality and simplicity of the displays increasing, more and more craft are being fitted



Pic: Advancing sea fog

with radar. If you have radar fitted then you must use it and therefore be able to use it properly. Radar sets are becoming easier to use, but to get the best out of them you need to understand how to 'tweak' the set to give you the best results – attending a course is the best way to do this.

The Collision Regulations require that you navigate your craft at a 'safe speed' relative to a variety of factors – of which, of course, visibility is a key one. In a planing craft, dead slow makes sense, and it also keeps the noise levels lower so that you have a greater chance of hearing other craft. Operating at higher speeds massively increases the chance of a collision and is highly dangerous.

Knowing where you are is critical as it is really easy to get disorientated and to go aground or stray into a main shipping channel. In a smaller craft, wisdom suggests the best place to be is shallower water where big craft can't hit you. This is sound, but as skipper you will have to balance the benefits of anchoring and waiting for the fog to disperse against those of reaching your destination and getting clear of the fog – it's a difficult balance to strike.

In fog you must sound the required sound signals, and remember that the rules change with respect to the actions vessels should take when not in sight of each other.

SOUND SIGNALS



- Power-driven vessel moving through the water: One long blast every two minutes.
- Power-driven craft stopped: Two long blasts every two minutes.
- Almost all other craft moving through the water (e.g. craft under sail or power-driven craft involved in some additional activity, e.g. towing, fishing etc.): One long blast and two short blasts every two minutes.
- Some VHF radios have the ability to be plugged in to a loudhailer and emit the required sound signals automatically – this can be a really beneficial feature.



AUTOMATIC IDENTIFICATION SYSTEM ('AIS') VS RADAR

Reading the various Internet forums, there is often much debate about the merits of AIS and radar. Both are really valuable and have their own distinct virtues, so it is important to understand both to assess what may work on your boat.

Radar sends a signal from the antenna mounted high on your craft which (hopefully) is reflected by targets (other craft, rocks, shoreline, buoyage etc.) and then shown on the display on your craft. Radar works very effectively in fog, and assuming other craft are returning a good signal they will be displayed. On smaller craft, radar is only effective to about 6 miles – the higher your antenna the further you 'see'.

AIS is similar to the transponder fitted to aircraft to identify what aircraft they are, their heading and speed. Large vessels are required to fit AIS and transmit this information, and smaller craft can either fit a receiver just to receive these transmissions

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or a transmitter/receiver. Typically, the information is displayed on a vessel's chartplotter. While AIS is really valuable in that it displays real and accurate information about the vessels out there, you need to remember that the only craft you 'see' on AIS are those that wish to show you they are there. Given that most boating in smaller craft occurs close to shore away from large commercial craft, it is the smaller craft that are not fitted with AIS that often pose the greatest risk. Additionally,

don't assume that because you are transmitting an AIS signal the larger craft will detect you as they have the ability to filter out signals from smaller craft. As more craft fit AIS transmitters, the chances of larger craft ignoring these signals increases.

As AIS gets cheaper, so it becomes a logical addition to the electronic kit you carry on board. For some craft it will be a key safety feature, but don't



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powered antenna that detects the radar pulse from another vessel and returns a large signal that will appear on the other craft's display. These systems are not cheap, but like any insurance policy, when you really need it you are very glad you paid for it.

At an early stage of our powerboating life we learn about the actions vessels should take when faced with other craft. For example, we all (should) remember that when faced with two power-driven craft in a head-on situation we should both make early and substantial turns to the right (starboard). What we often don't remember, though, is that these rules relating to how we avoid collisions relate to vessels 'in sight of one another', and when visibility is restricted our actions will change.

Where another vessel is 'seen' on radar alone and a risk of collision is suspected for vessels forward of the beam (unless overtaking), turns to port should be avoided, and for those 'abeam (adjacent to your vessel) or abaft (behind) the beam' no turn towards the vessel should occur – common sense, really.

Additionally, vessels hearing a fog

forget its limitations.

As already mentioned, radar is an extremely valuable tool at any time, and more so in conditions where visibility is restricted. One limitation, however, is that unless you are a large metal craft the signal your vessel 'returns' may be limited, so it is in your interest to maximise your visibility to radar. Safety of Life at Sea Chapter 5 (SOLAS V) requires that you carry/fit a passive radar reflector. Research shows, though, that the enhancement these give your vessel is variable at best, so an option for vessels travelling further afield or offshore could be to fit an active radar reflector. This is a



Pic: Early morning sea fog

signal apparently ahead of them should slow to minimum speed or stop and 'navigate with extreme caution' until the danger is passed.

In an ideal world, we would get the opportunity to crew for a really experienced skipper as we face restricted visibility afloat for the first few times. In reality, this probably won't happen, so remember: if faced with fog, try to react calmly and get everyone in life jackets, all listening for other vessels and keeping a good lookout. Be ready to take immediate action, and hopefully some of the

suggestions in this article will have proven beneficial.

Paul Glatzel

INFORMATION



Paul Glatzel is an RYA Powerboat Trainer and Examiner and runs Powerboat Training UK in Poole. He is author of the RYA Powerboat Handbook and the RYA Advanced Powerboat Handbook (to be published in 2013).

TEL: 01283 208891

EMAIL: sales@pontoonanddock.com



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