

AIS – are leisure craft just clutter?

Although AIS remains as useful as ever to the small boat sailor for ship detection, there is a growing concern that in busy waters such as the Dover Straits and the Solent, small boat Class B AIS transmissions are just clutter to commercial shipping and are filtered out on the radar screen. Where 'clutter' is defined as 'real signals transmitted by targets which are by definition uninteresting to the operator'?

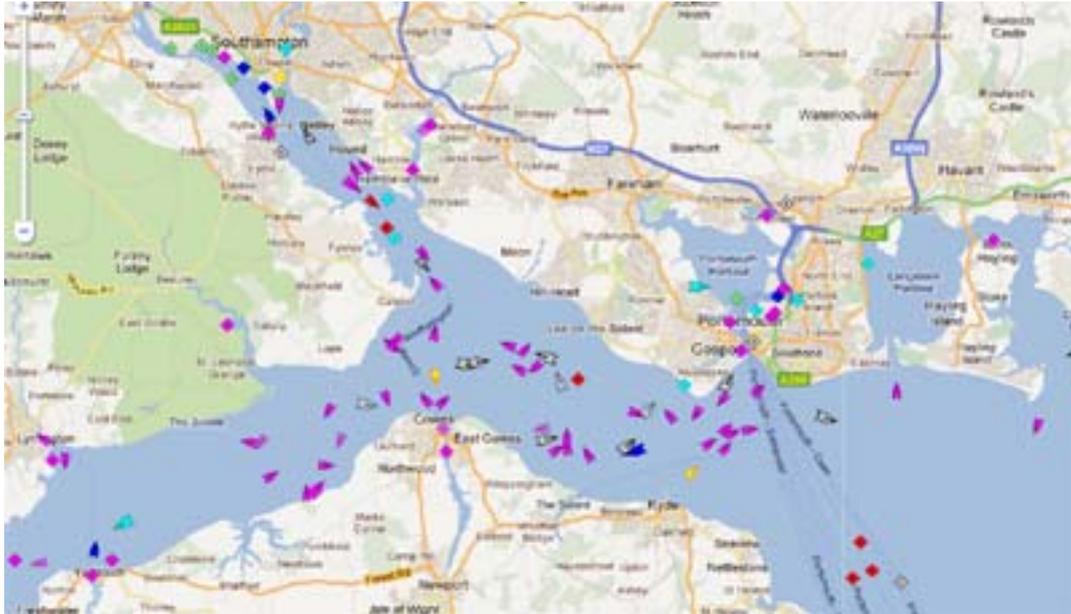
This and other AIS Class B issues will be explored from the point of view of both ship and small craft navigators in a one-day seminar to be held at Trinity House in November 2011, organised by the Royal Institute of Navigation, with input from the RYA and the Nautical Institute. The conclusions of the meeting will be forwarded to the Working Group of the International Electrotechnical Commission, which is currently reviewing the detailed standards for ships' radars, whose displays now double as the main display for AIS targets.

Other topics include 'Use of AIS by ship pilots in areas of high leisure craft activity', 'Use of AIS by Cross Channel ferries', and 'How AIS is used by the Port of London Authority; are Class B targets of interest?'.

We have all seen the AIS screen shots of ships in the Channel and the Solent; just imagine the picture if leisure craft make increasingly extensive use of Class B AIS transponders. There is a rumour of a yacht in Port Solent with a transponder permanently on, to show the owner it is still safely moored. And there are certainly many AIS signals from marinas. The Sunsail fleet of around 40 boats in the Solent is also installing AIS transponders. There are also useful plans to locate AIS transponders on significant navigation marks, and fishing vessels are making much wider use of AIS. Interestingly, many French leisure vessels are now showing AIS signals.

When AIS installation became compulsory on ships over 300 tons soon after 9/11, it was initially as an IFF ('Identification Friend or Foe') device for ships approaching the coast of the USA. Operator training was weak, and some AIS screens were distinctly unfriendly to the user, and located well away from the radar operator, and probably not used much for ship detection. The situation has improved since then, and AIS overlaid on radar screens is an established requirement at least on new installations. It is unlikely, though, that you can rely on a ship to effectively use your AIS signal even if it not filtered out, and its prime use is for 'defensive driving', rather than active reliance on a ship making a correct decision.

However, in big seas and fog where even radar returns can be patchy, and visual observation is difficult, AIS remains invaluable.



*The Solent on a quiet day.
The purple symbols are Class B AIS signals – Leisure or Fishing vessels,
A few Moodys are out!*

The equipment is rapidly moving further down the scale as it becomes economic. This increase in Class B installations for small craft is causing concern; even small boat sailors are complaining about screen clutter, including comments like:

‘ I would filter out Class B transmissions if I could ‘

‘ In busier waters AIS B presents too much information ‘

‘ If we do not use AIS carefully then big ships will filter us out ‘

‘ my receiver with no filter for Class B transmissions is already cluttered to the point of being almost unusable ‘

‘ Some owners leave their transponders on whilst berthed in their marinas ‘

Navigation Status

On some sets it is possible to code your AIS transmissions to identify motor, sail, diving RIB, etc., but few sailing craft will alter their status when the engine goes on. Bear in mind too that AIS has no standing in the Collision Regulations, where AIS is not mentioned.

Ability to Filter Class B?

It seems uncertain whether ships actually have the ability to filter AIS transmissions, but a new radar standard requires that screens can be decluttered if required, which comes to much the same thing. Filters can operate on Class B and size of vessel.

No doubt there will be a wide ranging debate on all the above, more after the conference.

More details from Prof Andy Norris, the man who wrote the book on AIS standards, and will chair the conference. He is a small boat sailor himself.

<http://tinyurl.com/AISfilters> - The site is Panbo.com, the marine electronics weblog

Prof. Norris says:

“ No normal ship would ever want to ignore the presence of small craft. In most situations AIS Class B transmissions are a useful additional detection aid. In some circumstances, however, Class B filtering is essential to avoid unnecessary and distracting alarms.

My view is that is preferable for recreational craft to carry and use AIS Class B transponders.

This makes craft highly visible to an ever increasing number of ships in normal circumstances. It does not guarantee that you will be observed on a particular ship's AIS system but it increases the chances way above 0%, which is what happens if you don't use an AIS transponder.

Remember that a ship's radar will not be guaranteed to see you either, neither are you guaranteed to be seen from the bridge windows. However, the chances of being seen visually, by radar or by AIS will be greatly increased compared with relying on just visual and radar visibility.

Safety at sea, just as when driving, is governed by probabilities, not certainties. We need to be always decreasing the probability that an accident will occur to us, as individuals.