

Paper for Consideration by the Digital Information Portrayal Working Group (DIPWG)

Cases of Displays to Improve

Submitted by:	France (SHOM, French Hydrographic Office)
Executive Summary:	This paper outlines any examples of bad display of ENC on ECDIS and proposes any actions to improve these displays.
Related Documents:	S-52 PresLib 3.5.
Related Projects:	

Introduction / Background

Due to its roles of ENC producer and ENC distributor for the French navy, mariners reported to SHOM cases of inadequate displays for some objects of ENC on ECDIS. The aim of this paper is to describe these cases to discuss them with DIPWG members in order to know how to solve such cases.

Analysis/Discussion/Conclusions

The paper shows three cases of bad display:

- soundings of wrecks that overlaps themselves
- cartographic objects (e.g. buoys) in border of ENC that can be hidden by near ENC
- appearances of lights and towers

In the first case (annex A), it appears that for near objects (like wrecks and obstructions) if the ENC is displayed at its compilation scale, the symbols of very near objects can overlap themselves. In such cases, sometimes the most dangerous object (the lowest sounding value) overlaps the others, and sometimes the most dangerous object is hidden by the other less dangerous wrecks. Furthermore, it appears that the display given by different ECDIS is not always the same. This situation may not be adequate for a safe navigation. A good solution could be to give a priority for the near objects like obstructions or wrecks to display the most dangerous above the others. As this situation can exist with objects (wrecks, obstructions...) and soundings, an evolution of the Sndrm CSP procedure could be helpful.

The second case (annex B) shows a buoy on an ENC that is cut by another ENC, so that it is possible to miss it. On this example the two scales of the ENCs are 1:22 499 and 1:29 999, so the ENCs are in the same navigation purpose. In such a display, the user has to select the object to know its nature and its feature, or to zoom in enough until the object is displayed correctly, in fact until the size of the object is less than the length between the origin of the object and the contour of the ENC. This last solution may not be adequate for a safe navigation.

The third case (annex C) is about the appearance of towers/lights (pink-circled) and beacons (orange-circled). What the mariners notice in such cases is that the most important element useful for their navigation is the lights and towers linked to these lights, and it appears that they are less conspicuous than beacons or buoys. The most remarkable objects should be maybe more prominent. This fact is certainly due to the transparency of the symbol used. One solution might be increasing the line width of the tower symbol to .6 mm for example. Other solutions could be to increase the size of the objects, or to increase the display priority.

Recommendations

DIPWG should consider these different cases to study if solutions can improve such situations.

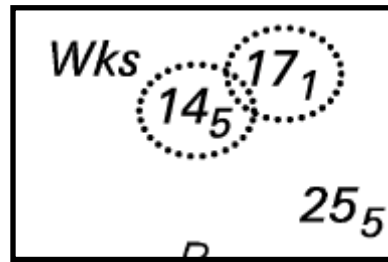
Action Required of DIPWG

DIPWG is invited to:

- Consider these different cases of bad displays that can be in some cases a risk for the navigation.
- Consider the two first cases to determine what can be done to improve such displays.
- Consider the third case to decide if it is possible or not to increase the line weight of the tower symbol.

Annex A: Soundings of wrecks that overlap themselves

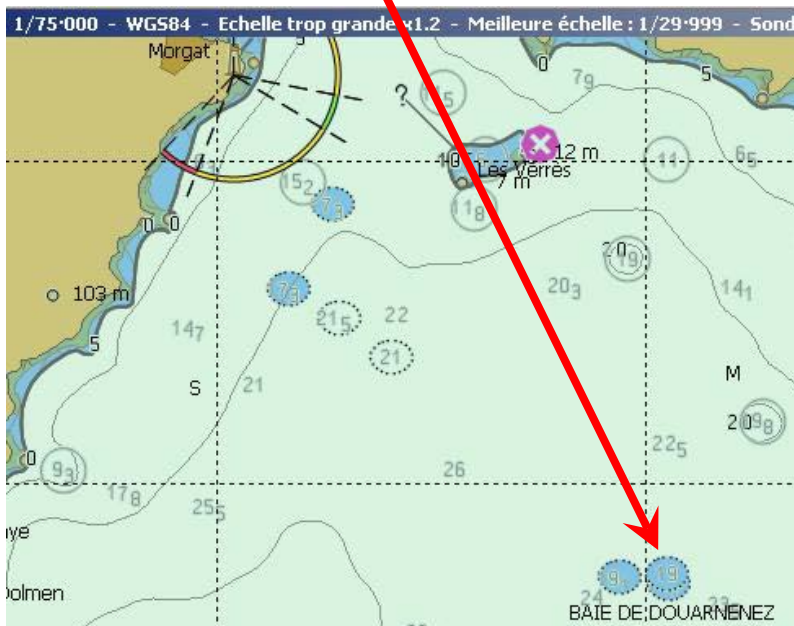
View of an example of nearby wrecks on a paper chart.



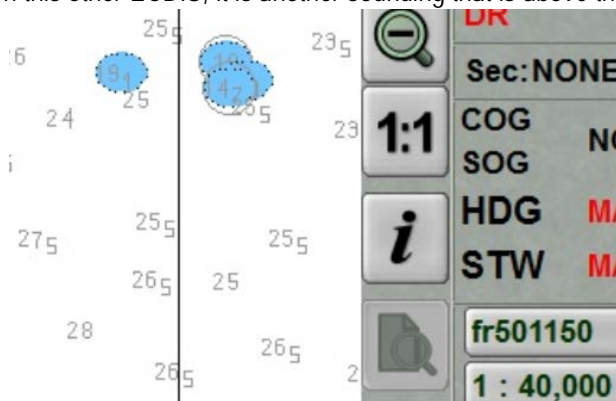
View of another example on an ENC :



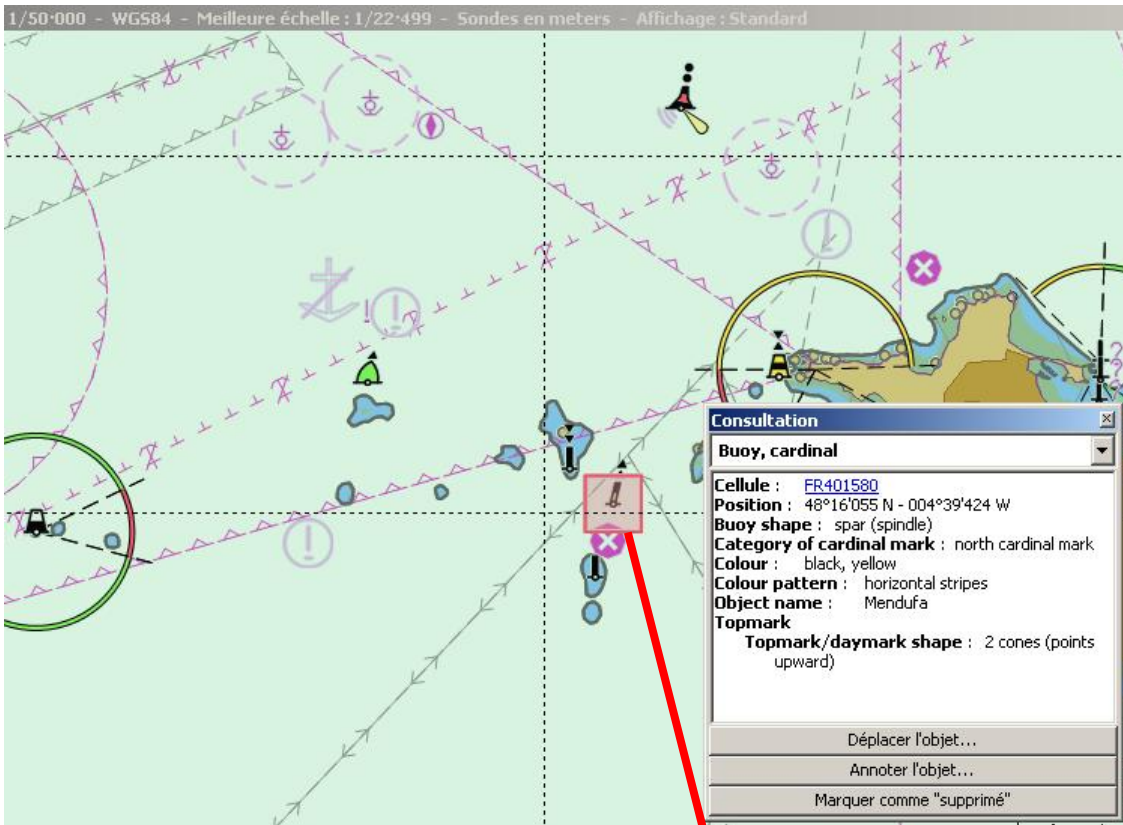
On this ECDIS, the soundings at 19 m appears above the others.



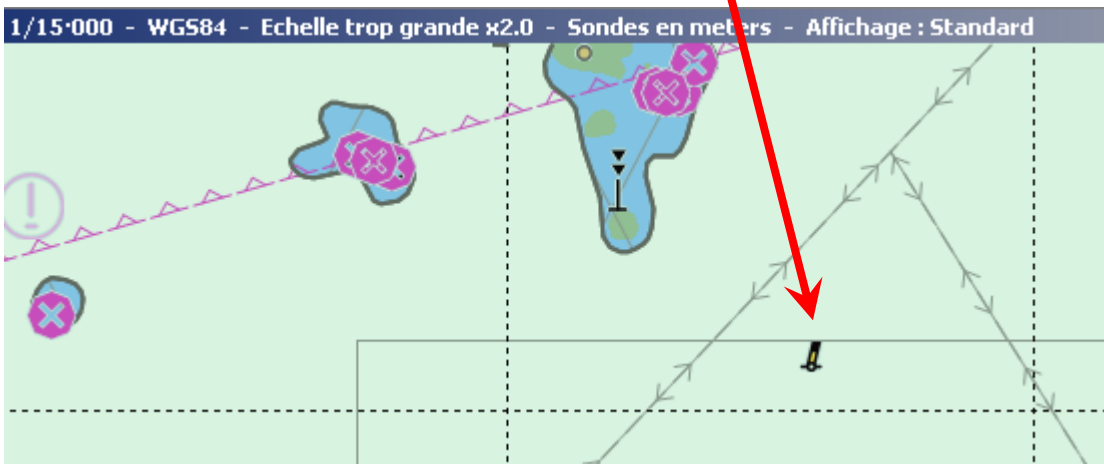
On this other ECDIS, it is another sounding that is above the others.



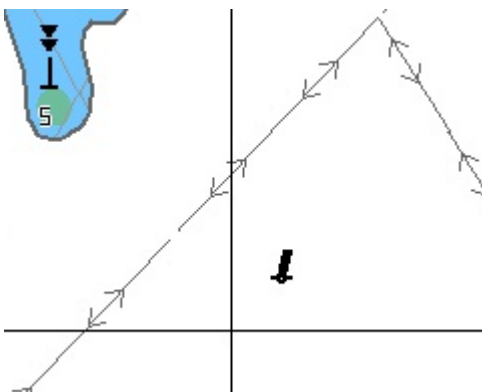
Annex B: Buoy on an ENC cut by another ENC



The buoy is cut at the border of the two ENC's.



Note that if the user does not display the border of the ENC, the situation displayed looks very ambiguous:



Annex C: Appearance of towers/lights (pink-circled) and beacons (orange-circled)

