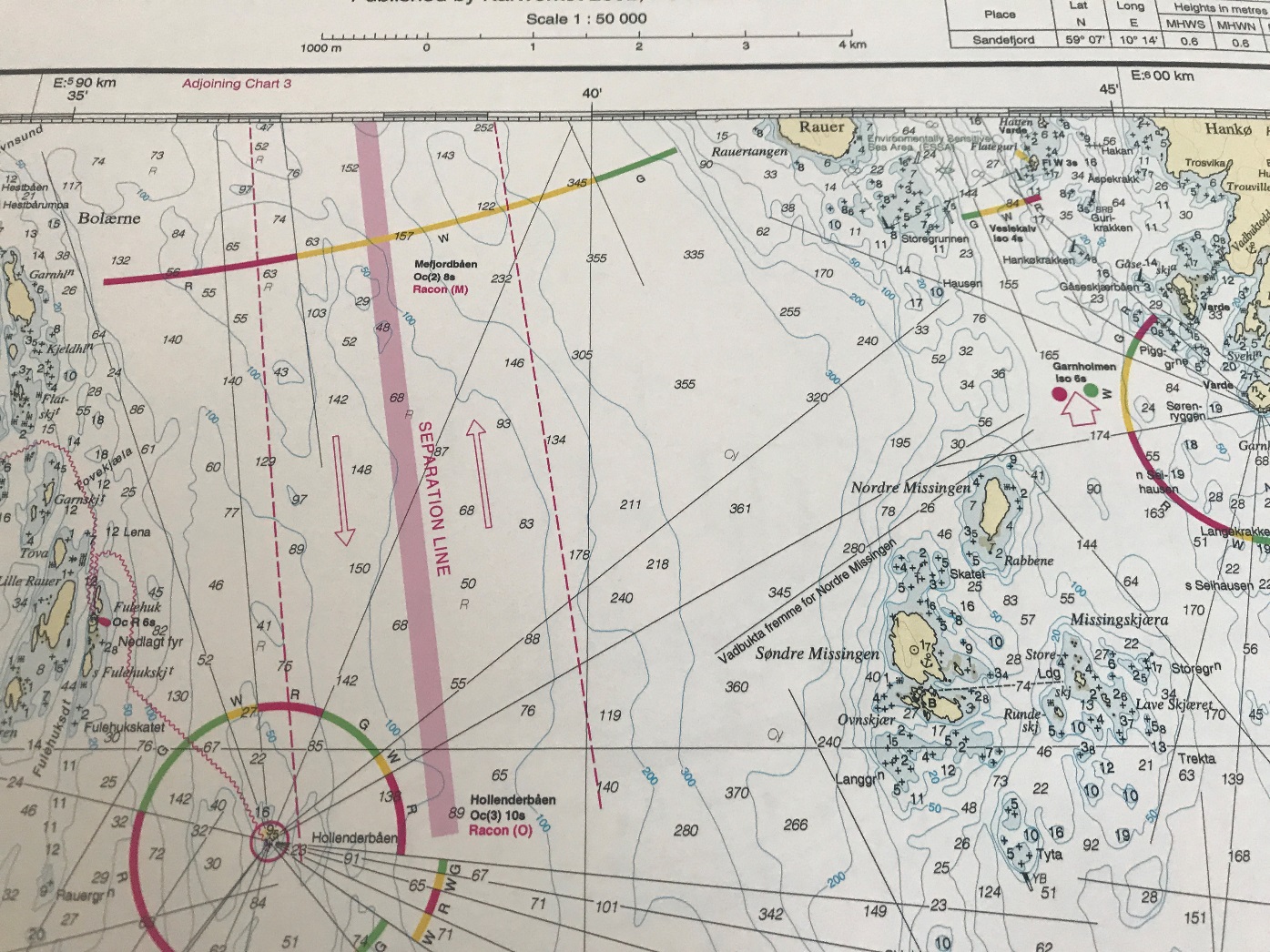
**Missing nautical information regarding AtoN on ENC charts, when navigating narrow waters or when observing lights with complex flash characteristics.**

The examples below were collected using ECDIS software (preslib 4.0). The maker of the software is Telko AS (tradename TECDIS).

The first image shows features in a paper chart that are lost when using ENC charts. For various reasons the mariner might have a zoom level at his display, which is less than the visual range of an AtoN. This generates light sectors visible that originate outside his display range. This is similar to the case with two adjoining paper charts, where the sectors of light “NN” is displayed in paper chart “B”, despite the physical location of the light is in paper chart “A”. This effect is shown for light “Mefjordbåen”.

NHS (paperchart)

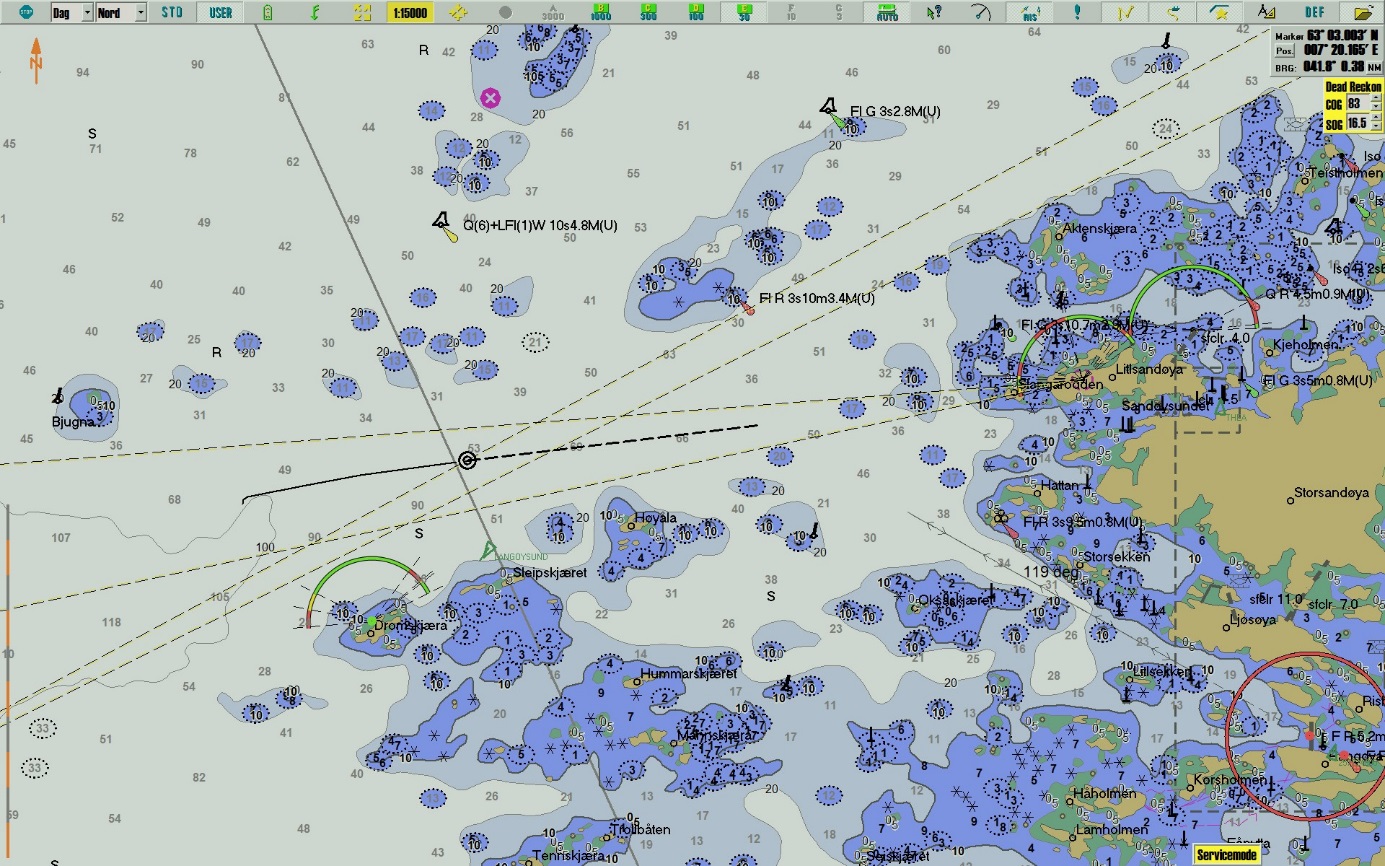


Various ECDIS makers adopt different features regarding the presentation of the same lights. Some have developed features, where a narrow white sector is automatically displayed. As shown these narrow white sectors are essential for safe navigation using AtoN. This information should therefore be clearly defined/displayed regarding these lights, such as name and character.

The example below shows a vessel (simulated) steering within a white sector towards a light (Litlsandøya sector light). The vessel is about to alter course to port, having a narrow white sector astern (Kvitholmen sector light). The sector is shown on the vessel’s starboard quarter.

The name/character are not shown for the Kvitholmen sector light. It should be possible to display by an operator, without having to change zoom level. It should also be possible to indicate the colour of the Kvitholmen sector light outside the displayed white sector (red and green).

NHS (ENC chart)



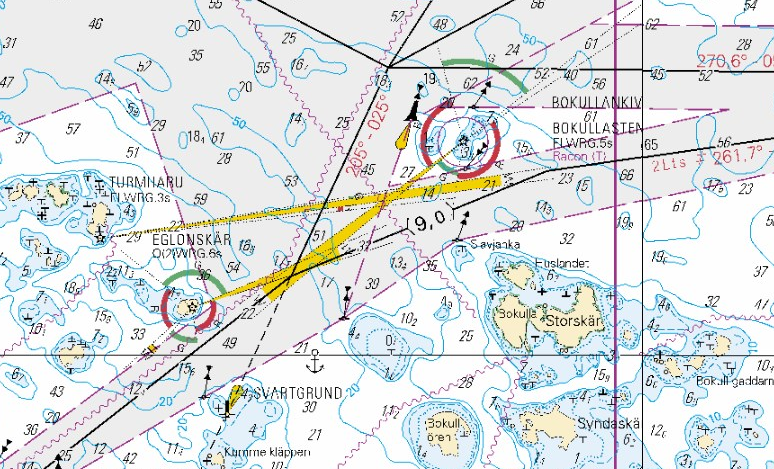
Name of light could be here.

Indication of sector color outside white sector could be displayed here.

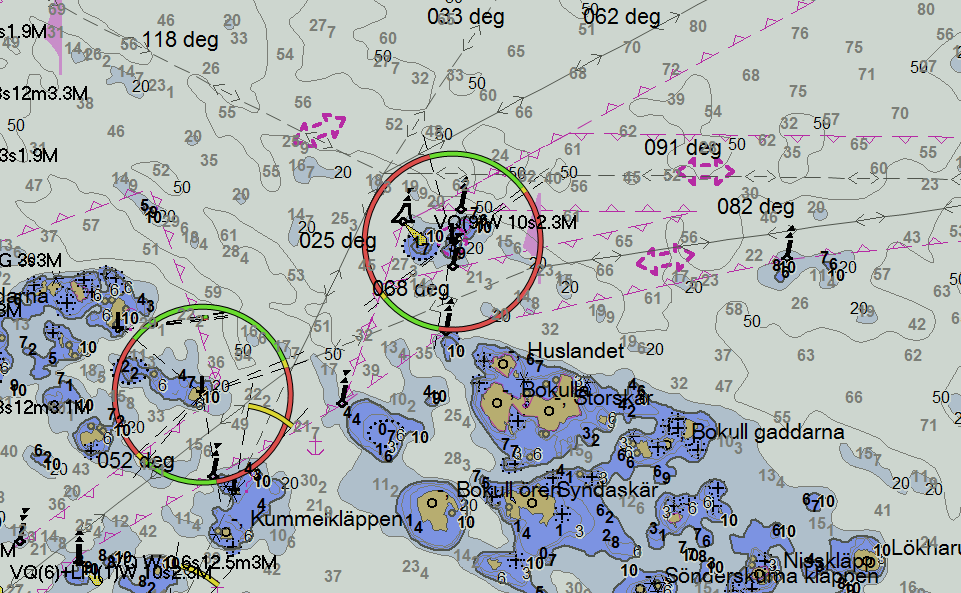
Proposed action for IHO: enable features for name/character for lights outside the display range that have sectors within the display range.

A prolonged white sector is desirable when navigating in narrow fairways. As shown in the example below from the paper chart, the purpose and which light to steer towards is easy to understand for the mariner. The example from the ENC chart shows less information and is less visually conspicuous for the mariner reading the ENC chart as the yellow sectors do not exist in the ENC charts. A vessel sailing from the east, using ENC charts, will have difficulties detecting the Turmharu light. The Eglonskär light is far more prominent. Using the Eglonskär light for leg/courseline 261.7 is a danger to safe navigation.

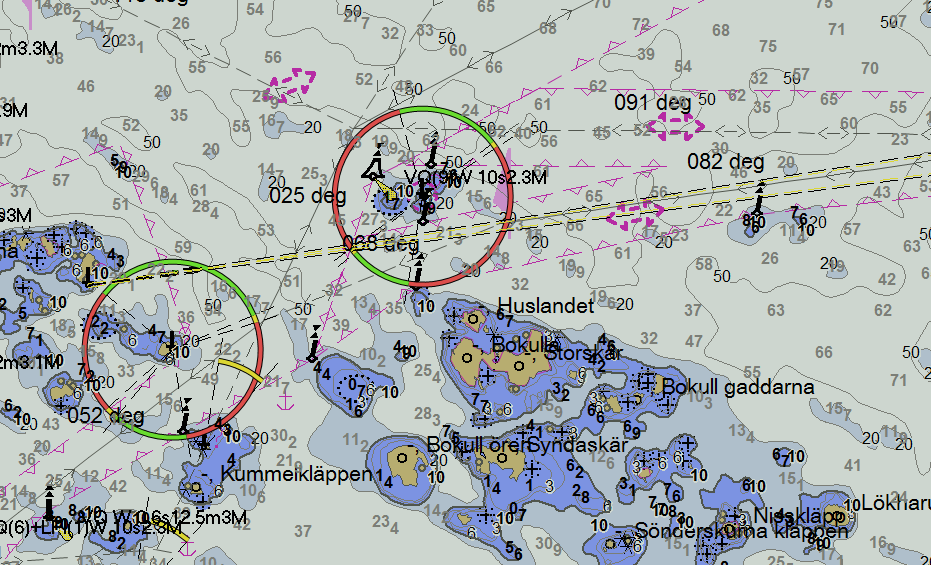
Turmharu in Finnish paperchart.



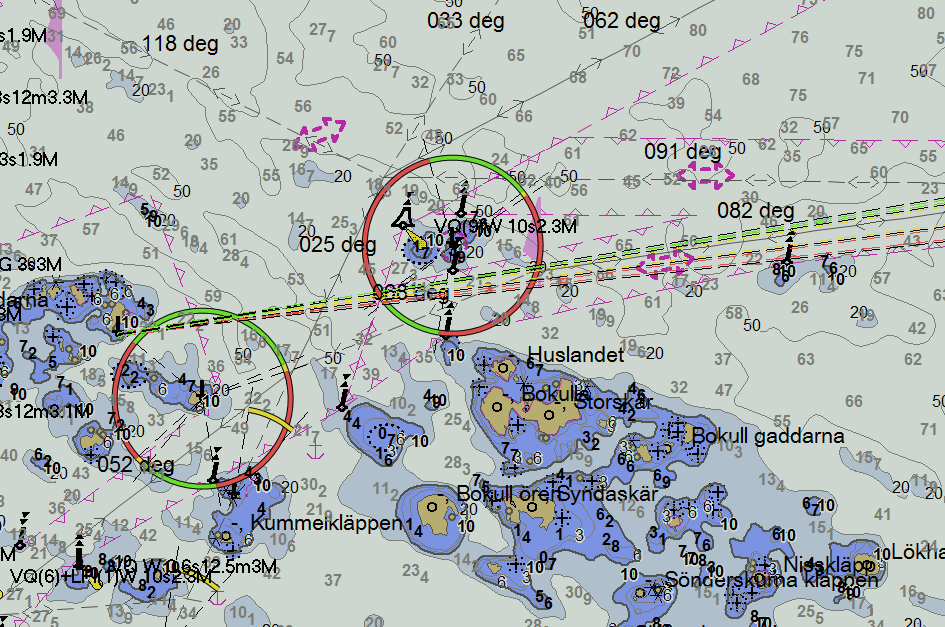
Turmharu sector light is hard to see on the ENC chart.



Turmharu with prolonged white sector

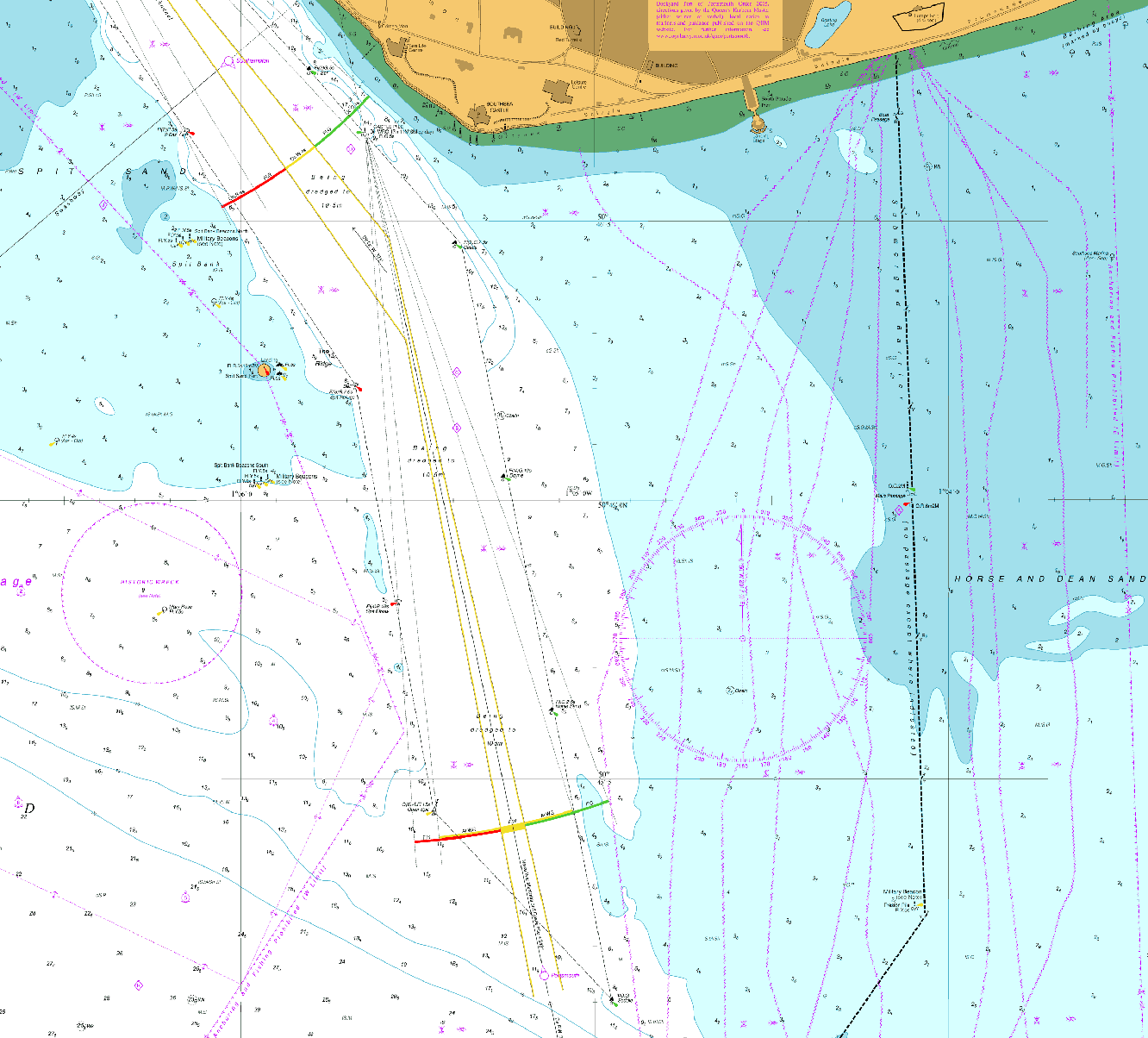


Turmharu with all sectors prolonged.



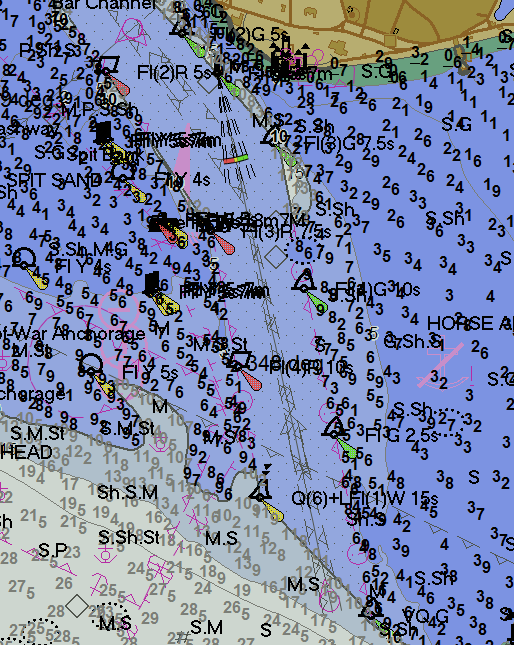
**Proposed action for IHO:** adopt a feature that enables extending the yellow sector as indicated in the Finnish paper charts.

UK paper chart (Portsmouth)

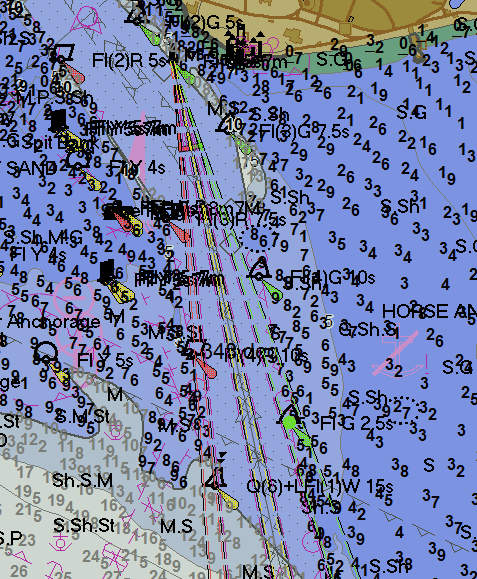


The paper chart clearly shows the intended usage of the fairway and the flash character of the Castle Pile light. Each sector has a unique character. It is very cumbersome to check these flash characters on ENC charts by pick-report.

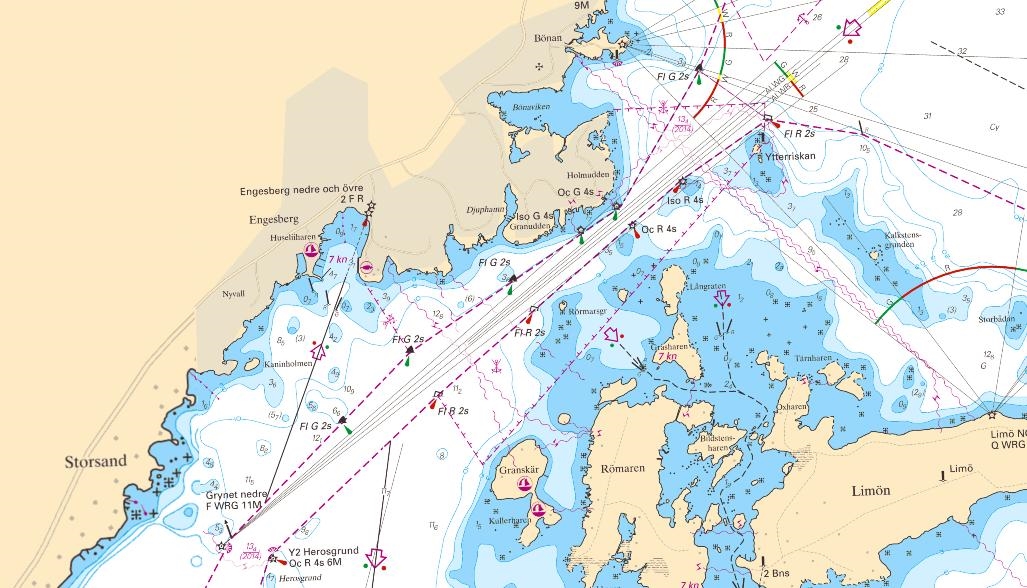
UK ENC chart, same area



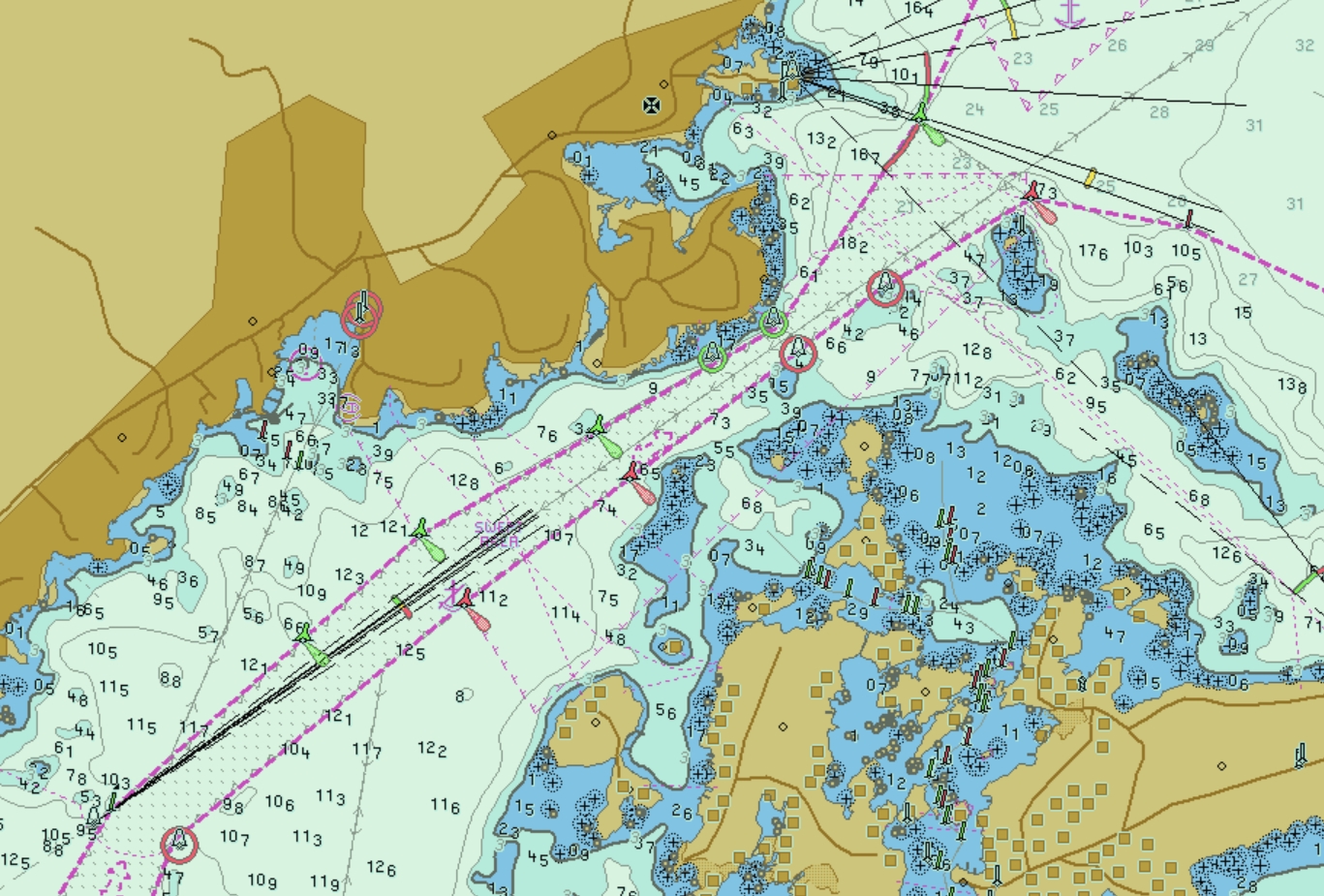
UK ENC chart, prolonged sectors



Swedish paper chart (Grynet lower light)



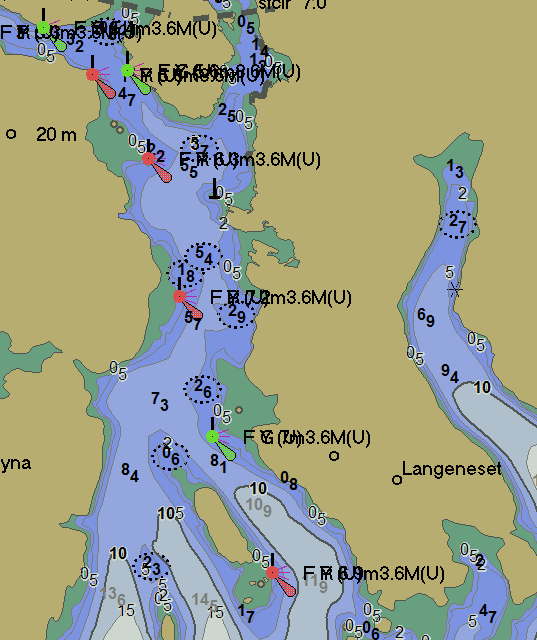
Swedish ENC chart



ENC charts are also missing the directional buoyage symbol. Sector limits are not extended according to their intended usage.

**Proposed action for IHO:** Enable the portrayal of extended sectors within their intended area of use on port entry lights with complex flash characteristics.

Image from NHS ENC chart (Kolgrov)



Object no. 76 (next image)



Object 76 is displayed in the previous ENC example.

Object 76 is an example of an AtoN used in narrow waters by high-speed ferries. It has a flashing lantern (red or green) on top, and a fixed light (yellow) illuminating the numbered cone/daymark. Port side AtoN have even numbers, and starboard AtoN have odd numbers, increasing from seaward, otherwise these objects are physically identical. Therefore, it is requested to have the numbers displayed in ENC charts, as this is a quick verification between the visual image and the ENC chart.

**Proposed action for IHO: create an attribute for this feature in ENC.**

Note:

The same example shows text on top of other text regarding the flashing character and the fixed character. Reason unknown, but should be resolved.

Input reviewed by ARM Committee (IALA AtoN requirements and management committee).