

Paper for Consideration by ENCWG

Shom plans for improvement of SCAMIN

Submitted by:	France (Shom)
Executive Summary:	Shom has a project to improve their S-57 SCAMIN policy and wishes to share it with other Member States.
Related Documents:	S-57 UOC, S-101 DCEG
Related Projects:	S-57, S-101

Introduction / Background:

1. Like many other HOs, Shom has been applying the SCAMIN policy in their ENCs as it is defined in the S-57 UOC (table 2.5). With sufficient experience now, it appears that the steps defined in the UOC table can be improved in the benefit of the mariners, especially on some topographic objects.

Analysis / Discussion:

2. The goal of the SCAMIN policy as currently defined in the UOC is to reduce ECDIS screen clutter when the mariner zooms out on an ENC. If the overall table seems to be satisfying, Shom is of the opinion that some SCAMIN steps could be modified to improve the display for the mariner.
3. Some topographic features like LNDELV or BUAARE have low SCAMIN steps in ENCs, sometimes (but not exclusively), because the attributes that would increase the step are not populated with the requested value.
4. When the mariner is at a certain distance from the coast and has zoomed out from the compilation scale, some objects are no more visible on the ECDIS screen although they would be useful to the mariner.
5. Shom plans to review their SCAMIN table as follows to solve this issue and have a more "gradual" calculation of SCAMIN:

Current SCAMIN			
BUAARE	Point/Surface	If CONVIS = 1 (visually conspicuous) or CONRAD = 1 (radar conspicuous)	3
BUAARE	Point/Surface		1
New SCAMIN			
BUAARE	Surface	If CONVIS = 1 (visually conspicuous) or CONRAD = 1 (radar conspicuous) or CATBUA = 5 (city)	Not encoded
BUAARE	Point/Surface	If CATBUA = 4 (town)	2
BUAARE	Point/Surface		1

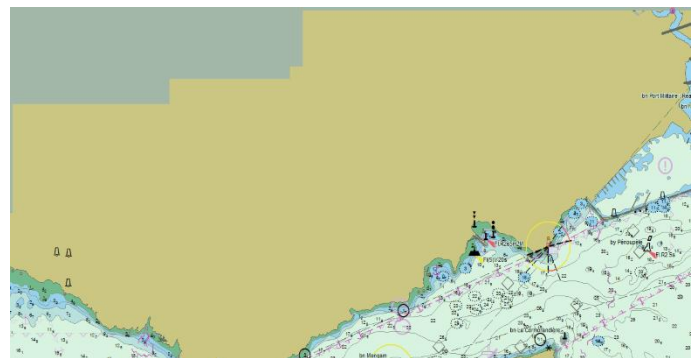
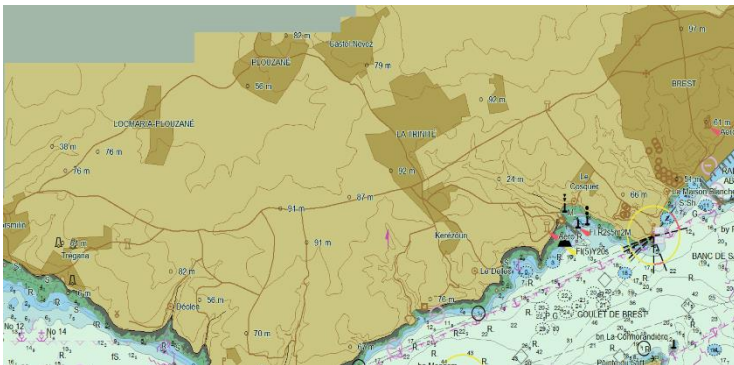
Current SCAMIN			
BUISGL	Point/Surface	If CONVIS = 1 (visually conspicuous) or CONRAD = 1 (radar conspicuous) or FUNCTN = 33 (light support)	3
BUISGL	Point/Surface		1
New SCAMIN			
BUISGL	Point/Surface	If CONVIS = 1 (visually conspicuous) or CONRAD = 1 (radar conspicuous) or FUNCTN = 33 (light support)	3
BUISGL	Point/Surface	If FUNCTN = 2 (harbour master's office) or 3 or CONVIS = 2 (not visually conspicuous)	2
BUISGL	Point/Surface		1

Current SCAMIN			
LNDELV	Point	If CONVIS = 1 (visually conspicuous)	3
LNDELV	Point/Ligne		1
New SCAMIN			
LNDELV	Point	If CONVIS = 1 (visually conspicuous)	Non codé
LNDELV	Ligne	If critic* = 1 (very important)	Non codé
LNDELV	Point/Ligne		1

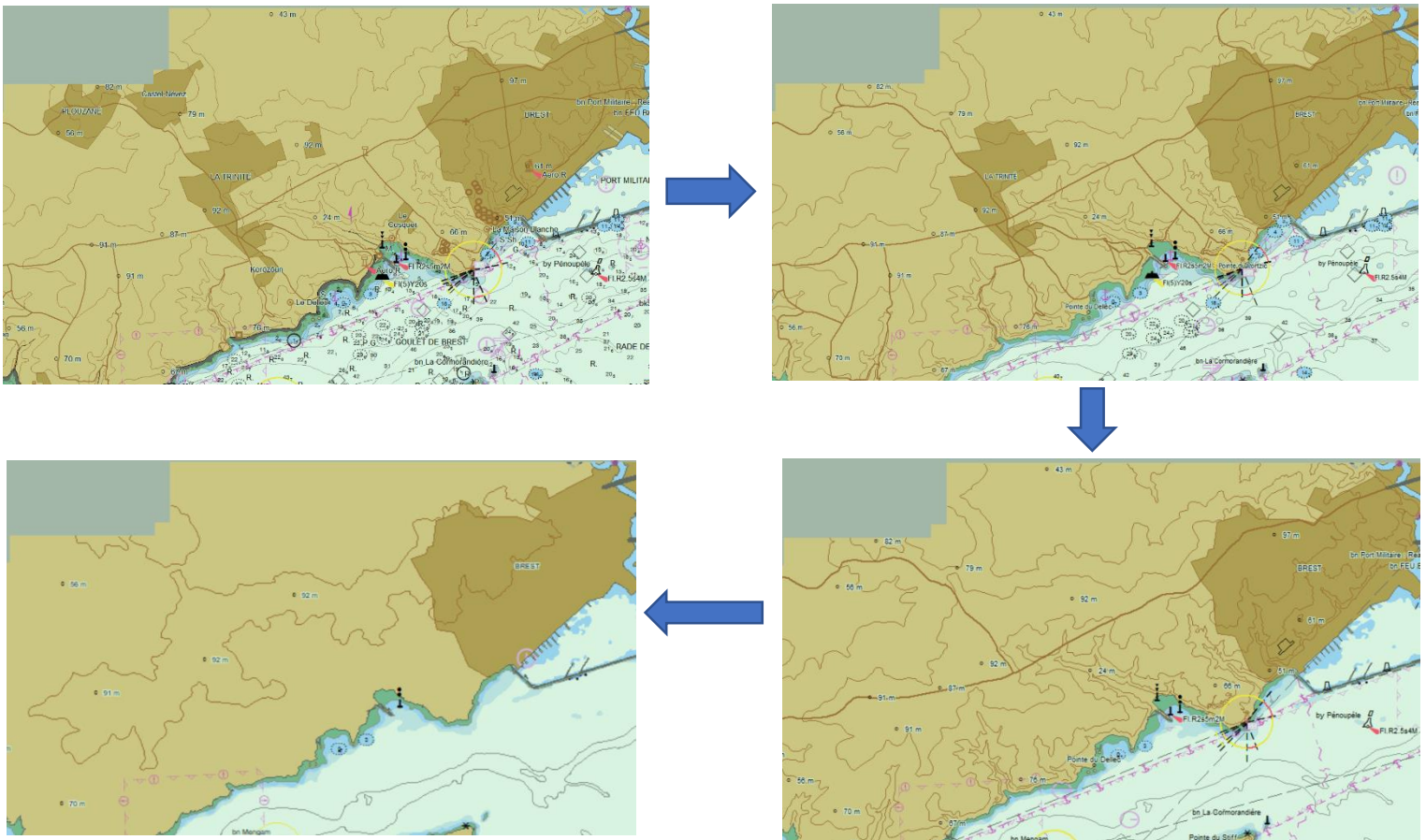
Current SCAMIN			
LNDRGN	Point/Surface		1
New SCAMIN			
LNDRGN	Point/Surface	Si critic* = 1 (very important)	Non codé
LNDRGN	Point/Surface	Si critic* = 2 (Important)	2
LNDRGN	Point/Surface	Si critic* = 3 (minor importance) or not encoded	1

*: critic id not an S-57 attribute, but we plan to use it in our S-57 database and use it for the calculation of SCAMIN.

6. The following figures show the result of the current SCAMIN table:



7. Here are the successive displays with the proposed changes:



8. For information, apart from the above changes to their SCAMIN table, Shom also plans to implement 2 other changes:

- SCAMIN will no more be populated at the S-57 product level via the source to product mapping files based on the UOC table, but directly in the source database. This will make it easier to assign the same SCAMIN values on objects that are present in different Usage Bands. It will also improve the current situation where an object disappears when zooming out on an ENC and then reappears when the next smaller scale ENC is displayed.
- A symbol overlapping calculation (the priority rules have been encoded with lua language) will be used to populate a SCAMIN value on the less important object when it overlaps another which is more critical for the mariner.



Conclusion

The SCAMIN table in the UOC could be improved so that some topographic objects remain longer on the ECDIS screen when zooming out on an ENC.

The cartographic production tools could probably also be improved to help data producers better implement the full SCAMIN policy (not only at a single ENC level, but taking consideration of the data on all the scale bands).

Recommendations

Based on this paper and the one presented by the UKHO, it is recommended that the ENCWG review and improve the SCAMIN guidance in the UOC. Of course, this review would have to consider S-101 scale minimum.

Action required of ENCWG:

The ENCWG is invited to:

- a. Note and discuss on this paper;
- b. Discuss on the recommendations.