Issues with OBSTRN in S-52

Paper ENCWG4-05

ENCWG4 – 10-12 June 2019, Monaco

1.1 Origin of this Paper

NCWG4-12.5 INF5

Paper for Consideration by NCWG
Distinction between obstructions and foul grounds

Submitted by:	France and Australia
Executive Summary:	What criteria should be used to decide if an object is to be charted as an obstruction or a foul ground?
Related Documents:	S-4 (B-422); S-57 UOC (§6.2)
Related Projects:	S-101

4\16	12.5 INF5	Further consider issue of distinguishing between obstructions and foul ground, propose changes for S-4.	FR, AU	ongoing

→ Action:

1.2 Issues

7. In terms of display and alerts on the ECDIS:
   ✓ Objects with CATOBS=7, 8, 9 or 10 are not in the Base Display and <u>never trigger alerts</u>. The reason is that for these values of CATOBS, the object does not go through Conditional Symbology Procedure OBSTRN07 and has no DEPTH_VALUE. This can be considered as a shortcoming in S-52, as for any object having VALSOU populated, this value should be compared to the safety contour.
   ✓ For the same reason, objects with WATLEV=7 never trigger alerts, although they represent a danger for surface navigation.

2.1 Definitions

- _Obstruction_ = "In marine navigation, anything that hinders or prevents movement, _particularly anything that endangers or prevents passage of a vessel_. The term is usually used to refer to an isolated danger to navigation, such as a sunken rock or pinnacle."

- Foul ground = "An area over which it is safe to navigate but which should be avoided for anchoring, taking the ground or ground fishing."

2.2 S-57 encoding

- Only one S-57 object: **OBSTRN** _(note that an object « FoulGround » has been created in S-101)_

- Distinction is made via attribute CATOBS (e.g. CATOBS=7: Foul ground)

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3. S-52 rules

- OBSTRN with

    - ✓ WATLEV=7 (floating) or
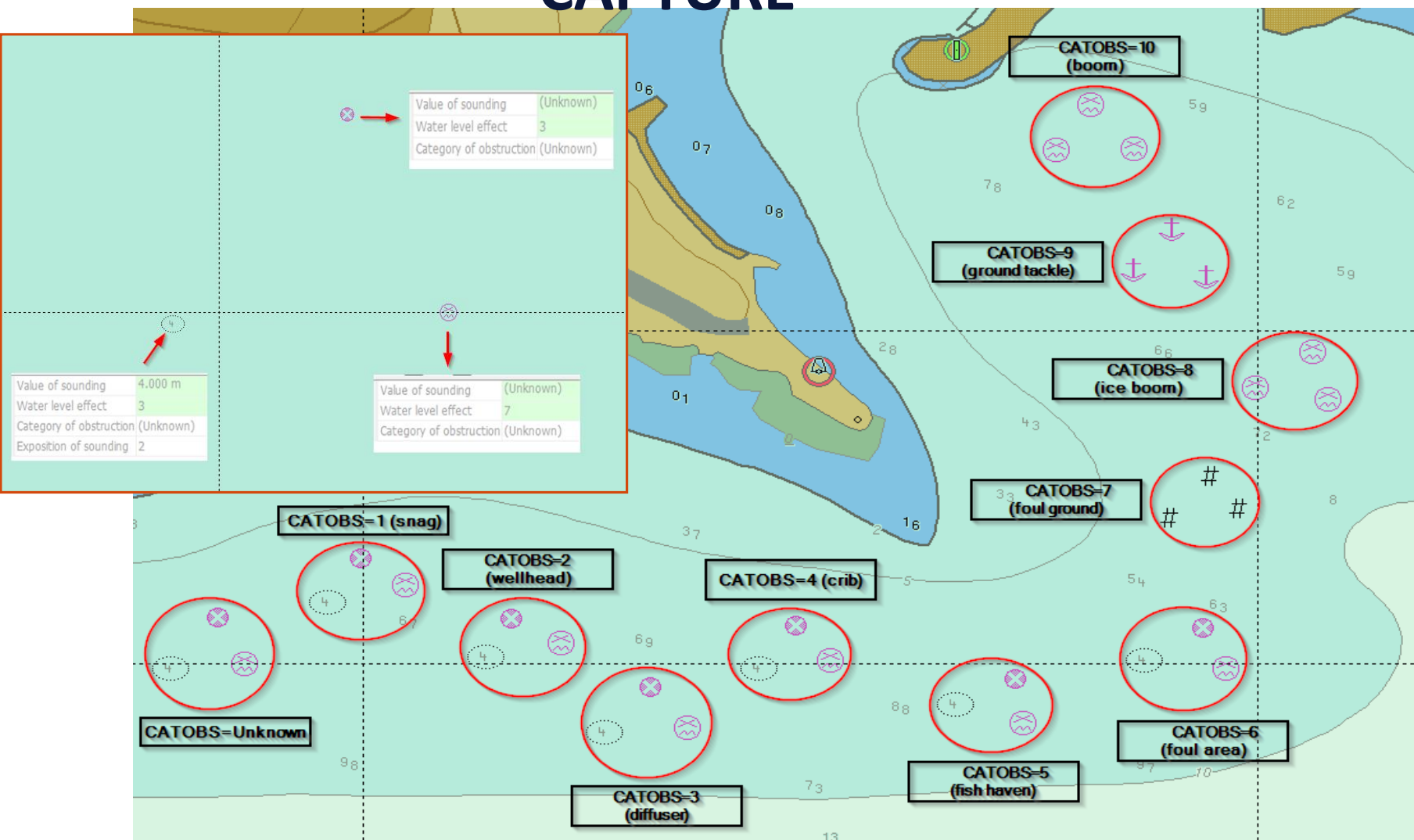
    - ✓ CATOBS=7-10

    are not taken into account for Detection and Notification of Navigational Hazards (S-52 Presentation Library Edition 4.0.2 - Part 1, clause 10.5.9), as they do no through CSP OBSTRN07 (they have no DEPTH_VALUE attribute).

    Look-up Table for Paper Chart Points:

    ```
    "OBSTRN","","CS(OBSTRN07)","4","O","OTHER","34050"
    "OBSTRN","CATOBS7VALSOU","SY(FOULGND1)","4","O","OTHER","34051"
    "OBSTRN","CATOBS8VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051"
    "OBSTRN","CATOBS9VALSOU","SY(ACHARE02)","4","O","OTHER","34051"
    "OBSTRN","CATOBS10VALSOU","SY(FLTHAZ02)","4","O","OTHER","34051"
    "OBSTRN","CATOBS7","SY(FOULGND1)","4","O","OTHER","34050"
    "OBSTRN","CATOBS8","SY(FLTHAZ02)","4","O","OTHER","34050"
    "OBSTRN","CATOBS9","SY(ACHARE02)","4","O","OTHER","34050"
    "OBSTRN","CATOBS10","SY(FLTHAZ02)","4","O","OTHER","34050"
    "OBSTRN","WATLEV7","SY(FLTHAZ02)","4","O","DISPLAYBASE","12410"
    ```
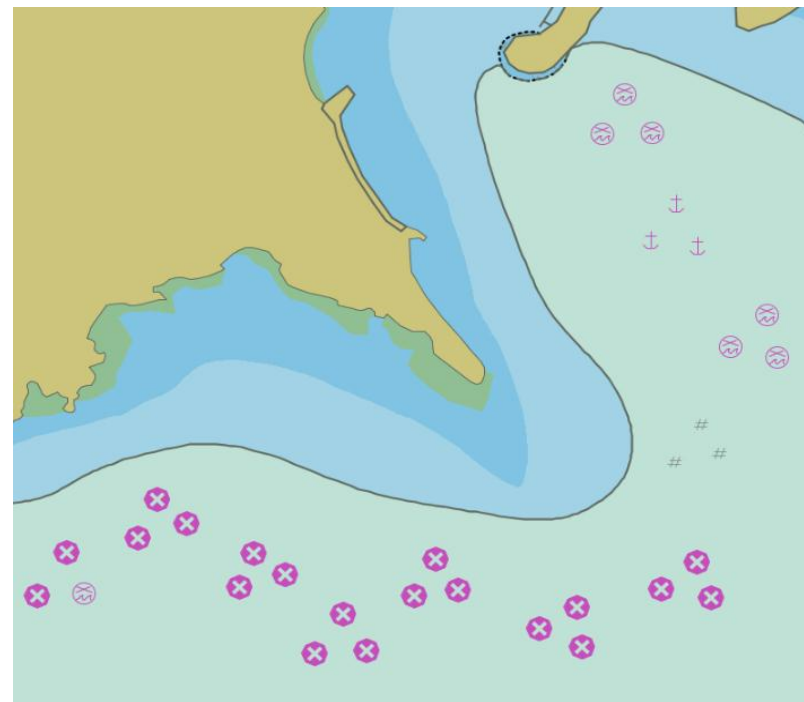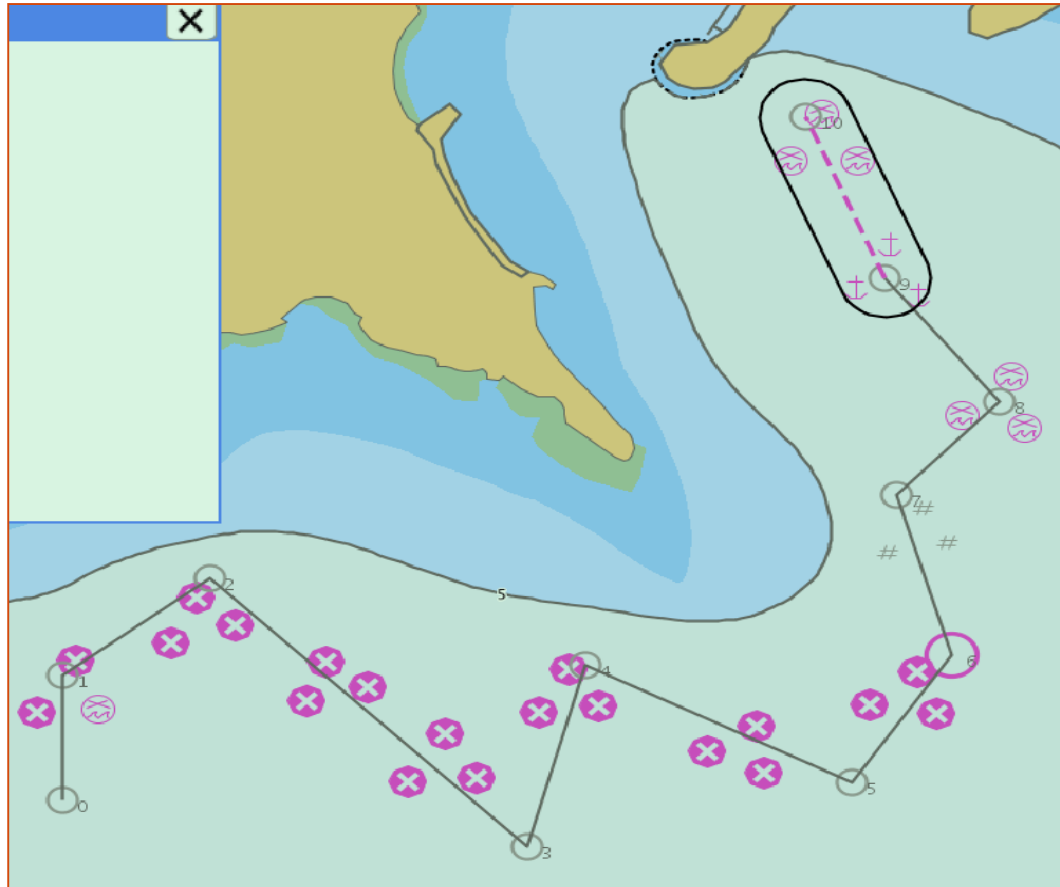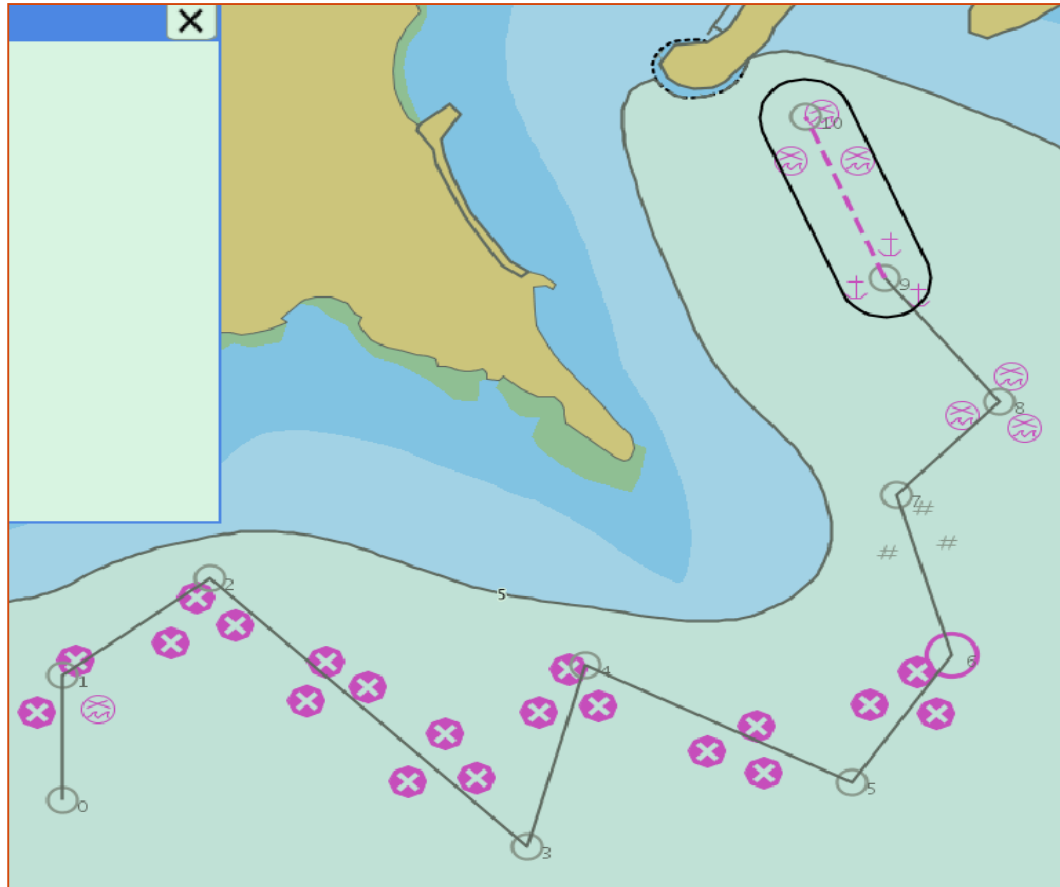
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CAPTURE
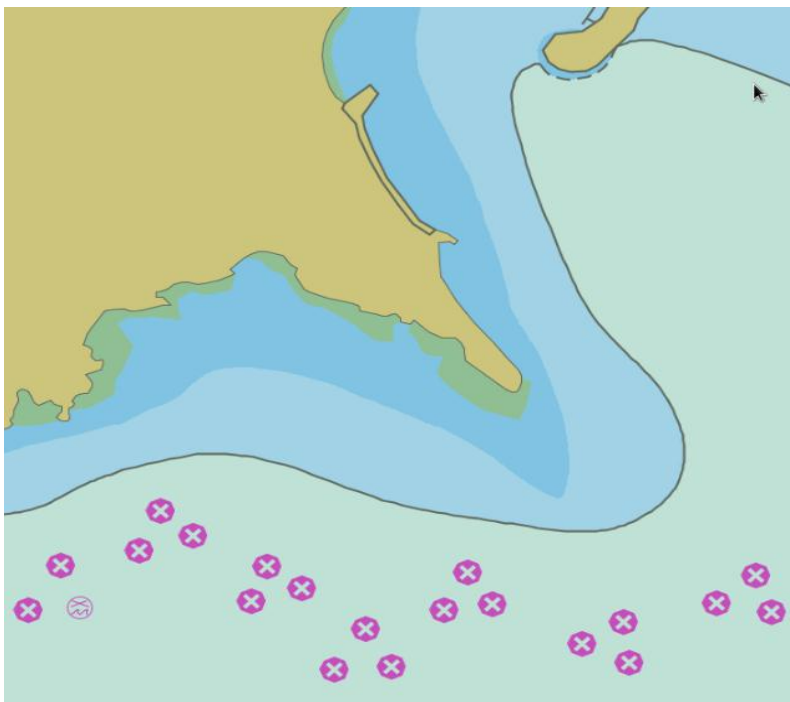
ECDIS display confirmed that only objects with CATOBS= unknown, 1, 2, 3, 4, 5, and 6 are on the BaseDisplay.

Base display + others is needed to see the objects with CATOBS=7, 8, 9 and 10.

OBSTRN with CATOBS=7, 8, 9 and 10 are never
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- OBSTRN objects with CATOBS=7 (foul ground), 8 (ice booms), 9 (ground tackle) or 10 (boom) never trigger alerts, whatever VALSOU.

- OBSTRN with WATLEV=7 never trigger alerts.

Ice boom
CATOBS=8
WATLEV=7

See detailed recommendations in paper ENCWG4-5.28

MERCI !