

**8<sup>th</sup> CSPCWG MEETING**  
**Turku, Finland, 29 Nov – 02 Dec 2011**

**Paper for Consideration by CSPCWG**

**Depiction of Marine Farm Areas**

<b>Submitted by:</b>	Australia
<b>Executive Summary:</b>	Feedback from cartographers and chart users is that it is difficult to interpret marine farm boundary symbology where the boundary covers a large area at the chart scale.
<b>Related Documents:</b>	IHO S-4, clause B-447.6 INT1 – K48.1
<b>Related Projects:</b>	S-4 Revision

**Introduction / Background**

In Australian waters, there are increasing instances of large marine farm areas being established in which farming activities may take place anywhere within the area at a particular point in time. Hazards to navigation may exist anywhere within these areas but the constant moving of these structures within the area is at intervals too frequent to chart and maintain on an individual basis. As many of these areas are located adjacent to vessel traffic areas in or at the approaches to ports, which are covered by larger scale charts, the size if the areas at chart scale can be significant, and the boundary as depicted using existing symbology is easily confused with other line work in the area.

**Analysis / Discussion**

A good example of the issue is large areas adjacent to port approaches in South Australia in which tuna farming activities are designated to take place. Tuna pens, marked by lighted buoys, may be located anywhere within the designated area, and are moved, often without notification to the AHO, on a regular basis which is too frequent to indicate on the chart by showing the individual pens in position and updating the positions by Notices to Mariners. The local regulatory authority has declared areas in which these tuna farming activities may take place, and as a result of a recent incident the AHO is required to show the limits of these areas on the appropriate charts using the marine farm area symbol INT1 – K48.1. A note indicating the temporary location of the structures within the area is also included on the chart. Initial feedback from cartographers was that in order to provide a clear indication to the mariner that these large charted areas are marine farms, a large number of marine farm symbols were required to be inserted within the area, which added additional clutter to the chart. Similar feedback was received from pilots and other chart users.

In many cases during the revision of S-4, new boundary symbology has been included where point symbols have been inserted within the line symbol. It is suggested that this convention be adopted to define an alternative symbology for large scale charts containing marine farm areas covering a large area at chart scale. The existing symbol INT1 – K48.1 should be retained for smaller areas.

In order to minimise clutter through the addition of point symbols along the line, it is suggested that the smaller of the marine farm point symbols at INT1 – K48.2 be used, e.g.:

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If approved, it is suggested that the 3<sup>rd</sup> paragraph of clause S-4 – B-447.6 be amended as follows:

On large-scale charts or where there are extensive areas of marine farms, the actual limits within which obstructions may be found should be shown by a dashed line (N1.1) with the smaller K48.2 symbol at intervals of approximately 40mm or closer and not exceeding 50mm. For small areas, the larger K48.2 symbol should be inserted within the area defined by the dashed line N1.1, and may be repeated if required.

An example of the symbol would be required in the clause; and INT1 – K48.1 would need to be amended similarly to include an example of the new symbol.

A copy of paper chart Aus134 will be presented at the meeting to provide an example of the extent, location and current depiction of these marine farm areas.

## **Conclusions**

Adoption of new symbology for large marine farm areas should make such boundaries easier to interpret by the chart user. The suggested amendments are in line with the convention used in depicting most maritime limits

## **Recommendations**

It is recommended that:

- new additional symbol for marine farm areas be adopted as specified above;
- existing symbology for marine farm areas be retained for smaller areas;
- S-4 clause B-477.6 be amended as outlined above; and
- INT1 – K48.1 be amended to include an example of the new symbol, similar to layout of K47.

## **Justification and Impacts**

- Introduction of new symbol will improve chart readability and reduce clutter within the areas.
- Proposed symbol is consistent with convention used in other maritime boundary depiction.
- Adoption of the proposed new symbol will have no impact on existing published paper charts.
- CSPCWG impacts resulting in the acceptance of this proposal will be to draft an amendment to S-4, and INT1 Sub-Working Group to incorporate a sample of the symbol in INT1 (no re-numbering in INT1 required).

## **Action required of CSPCWG**

The CSPCWG is invited to:

- a. consider this paper; and
- b. determine, on the merit of the Recommendations, Justifications and Impacts above, appropriate action.