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ORGANISATION HYDROGRAPHIQUE INTERNATIONALE

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CHART SPECIFICATIONS OF THE IHO (S-4)
Approval of New Definitions, Specifications and Symbols for Foul Area and Foul Ground

References: a) IHO Publication S-4 Part B: Chart Specifications of the IHO
b) IHO CL 02/2011 dated 6 January 2011

Dear Hydrographer,

1 The Directing Committee would like to thank the following 34 Member States who replied to CL 02/2011 proposing the adoption of new definitions, specifications and symbols for Foul Ground and Foul Area: Argentina, Australia, Bahrain, Bangladesh, Belgium, Brazil, Chile, Colombia, Croatia, Cyprus, Estonia, Finland, Germany, Greece, Iceland, Ireland, Japan, Morocco, Netherlands, Norway, Peru, Poland, Portugal, Romania, Singapore, Slovenia, South Africa, Spain, Sweden, Tunisia, Turkey, UK, USA and Venezuela.

2 All but one response (USA) supported the proposed new specifications and symbols. Additionally, Australia, Germany and Japan suggested some changes. These suggestions, together with explanatory responses, are detailed in Annex A. The final text, with highlighted changes is at Annex B.

3 The new and revised specifications and symbols will therefore be included in the next revision of S-4.

On behalf of the Directing Committee
Yours sincerely,

Robert WARD
Director

Annex A: Member States comments and Explanatory notes
Annex B: Final text

MEMBER STATES' COMMENTS IN RESPONSE TO CL 02/2011

AUSTRALIA

'To be consistent with the conventions used throughout S-4 where a quoted INT1 reference is not described in the subject clause, the reference to K1 in the fourth paragraph should be the same font, text size and line weight as the body of the text'.

Response from CSPCWG Chairman

Thank you for drawing this to our attention. In fact, the K1 referred to should be moved inside the bracket. This, with other minor formatting matters, will be corrected in the final version when inserted in S-4 (see Annex B).

GERMANY

Germany agrees in general, however the presented example (foul ground symbol with depth value in brackets) aggregated for a (generalized) area of foul ground is not acceptable to illustrate the cartographic application of this symbol. Foul ground is an unspecific object and it is not practicable to indicate a depth for it. If there are single depths in the surrounding area, this should be depicted by plain depth values. A combination of both elements suggests an undue interrelation.

Additionally, experience already gained with database oriented chart production shows, that it is not manageable to create such a combined symbol automatically. Its placement always requires manual intervention. Therefore Germany strongly recommends abstaining from a signature which combines the foul symbol with a depth value.

Response from CSPCWG Chairman

The foul ground symbol does not necessarily mark an unspecific object, as the examples listed illustrate: 'eg: the distributed remains of a wreck, a dropped anchor, the site of a cleared production platform'. In general, I agree it is better to select depths in the area which do not coincide with the position of the #. That is why the wording is: 'The depth over the area, if known and required, may be shown in brackets adjacent to the symbol'; it is not mandatory. However, occasionally a critical depth may coincide with the position of the #, and showing the depth in brackets was the preferred method by the majority of the CSPCWG members.

Those nations which use database chart production methods must choose to what degree they avoid paper chart symbols which require manual intervention. UK's experience is that, to obtain the best result for the mariner, a considerable degree of manual intervention is still necessary at present.

JAPAN

When this proposal is decided, the Japanese charts are transposed with a new symbol gradually according to this. However, it will be informed that the description of (eg 18/#) will remain in the Japanese charts for the time being. Precisely, 'Foul Bottom' or 'Foul Ground' were charted by the letters "fB" like the quality of the bottom before. In Japan at that time, "fB" was put under the depth where the depth is known. The letters "fB" were replaced by proposed new Foul Ground symbol '#' afterwards.

Response from CSPCWG Chairman

Japan is congratulated on its readiness to change its depiction in the interest of international standardization. It is appreciated that this will take time, which is why all versions of INT1 necessarily contain 'obsolescent' versions of symbols. It is accepted that the method of showing the depth with # underneath is as valid as showing the depth in brackets adjacent to the #. However, the majority of the CSPCWG members preferred the latter version to be the international standard.

US

The United States does not agree with the specification, "the word "Foul" should be avoided on charts." and the specification, "the legends "Foul" or "Foul Area" should not be used." The term "Foul" has been used for foul areas on U.S. nautical charts since the nineteenth century and is adequately defined in IHO Publication S-32 (Hydrographic Dictionary). The term "Foul" is expected by users of U.S. nautical charts. The danger curve differentiates these areas from "Foul Ground".

The United States does not agree with the following text regarding Foul Areas:

"Further information should be provided by one or both of: insertion of the available hydrographic data…"

By definition (IHO Publication S-32), a foul area is an area of numerous UNCHARTED dangers to navigation. Due to the many uncharted dangers, navigation should not be encouraged within a foul area. The mariner would not know where all the dangers are within the area. Inclusion of hydrography would encourage navigation and give a false sense of security as to the bottom configuration.

The United States does not agree with the specification, "larger areas of foul ground *must* be shown by the symbol #K31/L22 centered in a circle…" The strength of wording should be reduced to "*should*" indicating that this is a recommendation by IHO but optional for use by the nation-state, as in the proposed specification for the foul ground point symbol: "the foul ground symbol # K31.1/L22 *should* be used…"

Response from CSPCWG Chairman

These arguments have already been considered in great detail by the CSPCWG.

1. The term 'Foul' (used on its own) is not adequately defined in S-32 in the sense used on charts. It is only defined as a verb, ie: 'To entangle or become entangled…' and 'To attach or come to lie on the surface of submerged objects…'. 'Foul Area' and 'Foul Ground', as composite nouns, are (or will be) well defined in S-32, but S-32 is not a publication readily referred to by chart users. It proved impossible to reconcile the different usages of the word 'foul'. Consequently, the near unanimous majority decision of the CSPCWG was to avoid the use of this potentially dangerously confusing term on charts. This is particularly important for the international mariner, including those entering US waters, who will be using charts elsewhere where 'foul' means something very different. As US points out, the danger curve (line) makes clear to the chart user where he should not go; an additional legend seems unnecessary. If a legend is required, then K40 exists for that purpose.

2. The majority decision of the CSPCWG was to allow the charting of available hydrographic data within a foul area, so that rescue services have as much data as possible should they have to venture inside such areas. The danger line and the options for warning legends and notes should be sufficient to discourage other mariners from entering such areas. However, we will change the strength of wording to 'may', ie: Further information may be provided by one or both of:'

3. The last point is conceded. The wording will be amended to 'Larger areas of ***foul ground*** *should be shown by symbol # K31/L22…'*

In conclusion: the English word 'foul', particularly on its own, has a lot of meanings which are only apparent from context (eg on a football field – or should I say 'soccer'!). It is regrettable that in nautical cartography, two very different applications have arisen, which have the potential to cause confusion, especially for the international mariner. We have not been well-served by our predecessors who allowed this situation to be perpetuated for many decades. This existing confusion has now caused more serious discrepancies in the production of ENC. And yet, the word is unnecessary! It is a principle of standardization that intuitive symbols should be used instead of legends wherever possible. A danger line (curve), together with the international abbreviation 'Obstns' if required, exists as a quite adequate depiction for 'Foul areas' (K40). The # symbol, while not really intuitive, has been embedded in mariners' minds for many years as meaning something on the sea floor which is safe to navigate over, but warning against sea floor activities. Extending the use of this symbol into larger areas seems logical and allows the use of the word 'foul' to become obsolete. While we have avoided saying that the word must not be used, I think it is very much in the interests of both mariners and cartographers to recommend cartographers to avoid it. A brief statement has been added to the specification (at Annex B) to explain the historic context, for information of current and future chart compilers.

REVISED SPECIFICATION FOR FOUL AREA AND FOUL GROUND

(New changes highlighted in yellow)

B-422.8 A **Foul Area** is an area of numerous uncharted dangers to navigation. The area charted serves as a warning to the mariner that all dangers to navigation are not charted individually and that navigation through the area may be hazardous. The term 'foul area' should not be applied to a soft continuum with indefinite boundaries such as mud or sand; to areas congested with marine vegetation such as kelp or grass in water (unless attached to rocks or obstructions); or to materials not likely to cause damage to a vessel.

Foul Ground is an area over which it is safe to navigate but which should be avoided for anchoring, taking the ground or ground fishing (eg remains of wreck, cleared platform).

It is important to distinguish between these two uses of the description 'Foul' on charts. Therefore, the word 'Foul' should be avoided on charts, because of the potential for confusion by the chart user. (Note: Historically, these two uses derive from differing nautical terminology, eg Foul Area in US, Foul Ground in UK).

A **Foul Area** must be delimited by a danger line (K1, see B-420.1), filled with blue tint. Further information may be provided by one or both of:

- appropriate legends to indicate the characteristics of the uncharted dangers to navigation, where known, eg 'numerous rocks', 'numerous obstructions', 'coral heads' with an associated note, if required;
- insertion of the available hydrographic data, appropriate to the nature of the area and scale of the chart, with an associated note, if required, explaining that surveys are incomplete and uncharted dangers may exist.

The legends '*Foul*' or '*Foul Area*' should not be used.

The **foul ground** symbol should be used as a point symbol to indicate small areas of sea floor debris, eg: the distributed remains of a wreck, a dropped anchor, the site of a cleared production platform (provided the platform has been removed to the sea floor):

K31.1/L22

Note: Platforms which have been cut-off **above** the sea floor must be charted as obstructions, see B-422.9.

The depth over the area, if known and required, may be shown in brackets adjacent to the symbol, eg:

(22)

Larger areas of **foul ground** should be shown by symbol # K31/L22 centred in a circle and placed within dashed limits where the extent is known and the area is large enough to be charted true to scale:

K31.2

For extensive areas, the # symbol may be included in the limit, at intervals of approximately 40mm or closer and not exceeding 50mm:

K31.2

The background colour should be in accordance with the depth. The legends '*Foul*' or '*Foul Ground*' should not be used.