

INDICATION ON CHARTS OF THE AREAS EXAMINED BY SWEEPING APPARATUS

REPORT BY THE INTERNATIONAL HYDROGRAPHIC BUREAU.

Monaco, 1936.

The question of the indication on charts of the areas examined by sweeping apparatus was brought up during the Third International Hydrographic Conference, Monaco, April 1932, by the delegation of the Japanese Hydrographic Department. Japan's proposal will be found in detail on page 89 of the Report of Proceedings, viz : that there be examined a method of indicating on charts very small swept areas explored or verified by sweeping apparatus (wire drag).

The Conference resolved to request the International Hydrographic Bureau to carry out an inquiry as to the different ways in which the Hydrographic Offices indicated such areas.

International Hydrographic Bureau Circular-Letter N° 5-H, June 1932, consisted of a questionnaire addressed to States Members and to the various Hydrographic Offices requesting information as to rules followed and the method of indicating swept areas on charts, whether by special colouring or by special symbol.

Replies were published in the *International Hydrographic Bulletin* :

N° VIII, August 1932, p. 194 : SPAIN, PORTUGAL, GERMANY, FRANCE ;

N° IX, September 1932, p. 209 : DENMARK, SIAM, NORWAY, EGYPT, GREAT BRITAIN, BRAZIL, JAPAN ;

N° X, October 1932, p. 230 : ITALY, NETHERLANDS, AUSTRALIA, DENMARK ;

N° XI, November 1932, p. 249 : SWEDEN.

Adopting as basis the discussions on this question which took place during the Conference (See Report of Proceedings, 1932, pp. 89, 217, 259, 383, 411) and the methods suggested in replies received to Circular-Letter N° 5-H/1932, the Directing Committee, having carefully examined the question of the best means of representing swept areas on charts, formulated the proposals contained in *International Hydrographic Bulletin* N° VII, July 1933, page 120 and following ; these proposals were submitted to States Members by Circular-Letter N° 6-H/1933, with the request that the International Hydrographic Bureau might be informed whether the different clauses of these proposals were acceptable or not.

PROPOSALS BY THE DIRECTING COMMITTEE.

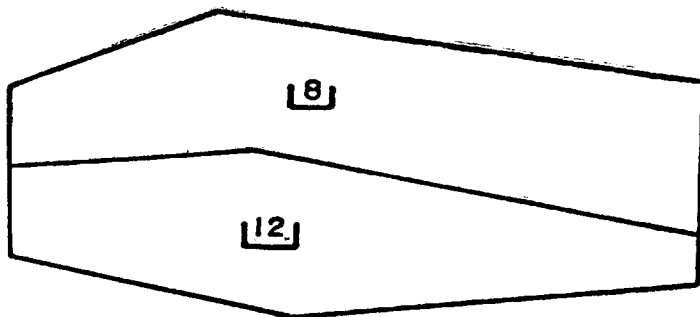
I. That LARGE SWEEPED AREAS should be either

- (i) shown on special charts ;
- (ii) indicated on the navigational charts by means of a light green tint, solid or hatched, with a notation of the depth to which the sweeping was carried out, the figure indicating this depth should be placed within a symbol , or
- (iii) in the case of those countries that do not use colourwashes on their charts, by the same system as for restricted areas (see 2 below).


Note. — In cases (ii) and (iii), however, when a large proportion of the area embodied in the chart has been swept, a suitable notification in the title of the chart should be given in lieu.

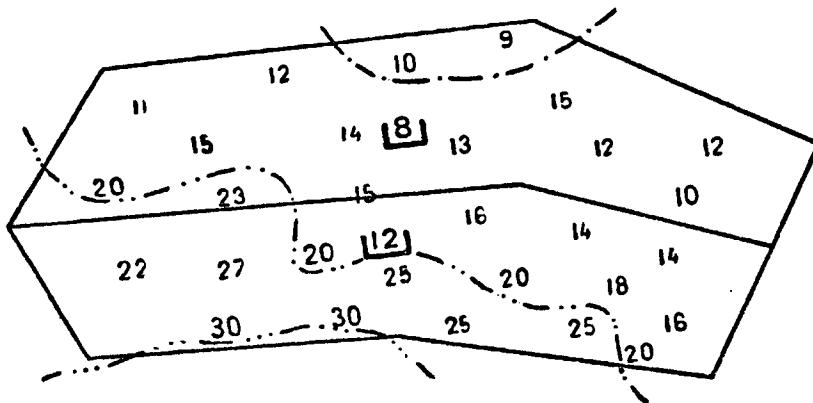
2. RESTRICTED SWEEPED AREAS :

a) *Areas in which no soundings are shown.* That such areas should be enclosed by a thin unbroken line with the depth swept shown in heavy figures, thus :



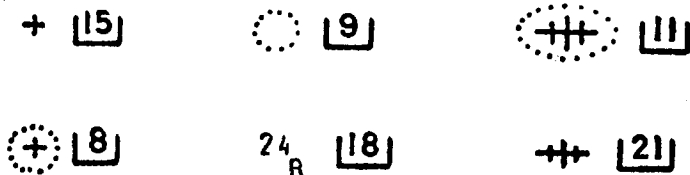
b) *Areas in which soundings are shown.* That the same system as in (a) be used, the notation of the depth swept being printed in heavier and a distinct type to that used for soundings.

3. That VERY SMALL SWEEPED AREAS, such as those over isolated sunken rocks, pinnacles, submerged wrecks or obstructions, etc., should be indicated by the symbol  only, thus :



thereby obviating the necessity of a more detailed note against the area in the body of the chart.

4. That SUPPLEMENTARY INFORMATION, such as Method of Sweeping. Date of Sweeping, and any other particulars, should be given as necessary in the Sailing Directions and, or notified by means of Notices to Mariners.



Circular-Letter N° 6-H/1933 requested Members to state their acceptance or non-acceptance of each of the above paragraphs respectively.

The following Table summarizes the replies received at the International Hydrographic Bureau in connection with each paragraph of Circular-Letter N° 6-H/1933 :

COUNTRY.	Large Swept Areas.				Restricted Swept Areas.		Very Small Swept Areas.	Supplementary Information.
	I	II	III	Note	(a)	(b)		
ARGENTINA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AUSTRALIA	No	No	No	No	No	No	No	Yes
BRAZIL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CHINA	No	No	Yes	Yes	Yes	Yes	No	Yes
DENMARK	No	No	Yes	Yes	Yes	Yes	Yes	Yes
EGYPT	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FRANCE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GERMANY	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
GREAT BRITAIN.....	No	No	No	No	No	No	No	Yes
GREECE	No	No	Yes	Yes	Yes	Yes	Yes	Yes
ITALY	No	No	Yes	No	Yes	Yes	Yes	Yes
JAPAN.....	No	Yes	—	No	Yes	Yes	Yes	Yes
NETHERLANDS (*).....	—	—	—	Yes	—	—	—	Yes
NORWAY	No	No	No	No	No	No	No	Yes
POLAND.....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PORTUGAL.....	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SIAM (*).....	—	—	—	—	—	—	—	—
SPAIN	No	No	Yes	Yes	Yes	Yes	Yes	Yes
SWEDEN.....	No	No	No	No	No	No	No	No
U. S. A. HYDROGRAPHIC OFFICE (*).....	Yes	No	No	No	No	No	No	Yes
U. S. A. COAST AND GEODETIC SURVEY (*).....	Yes	No	—	—	No	No	No	Yes

(*) See comments by this country.

Complementary remarks were added by several countries as follows :

NETHERLANDS : On 8th September 1933, the Netherlands Hydrographic Office informed the Bureau that that Office had not yet decided definitely the method of indicating on charts the areas examined by sweeping apparatus; it was, however, in favour of the suggestion that large swept areas be enclosed on charts by a thin unbroken line. As the depths of the different parts of the swept lanes vary more or less, mention to be made in the legend of the chart to the effect that lesser depths than those shown by the chart are not to be expected within those swept lanes. In what manner very small swept areas, such as those over isolated sunken rocks, pinnacles, sunken wrecks, etc., should be indicated on the Netherlands Charts had not yet been decided, but should the need for such indication make itself felt, the Netherlands would not fail to consult the practice that had meanwhile come into use on the charts of other countries.

As Netherlands' charts are nearly all engraved on copper, colour tints cannot be used in printing; however, on Netherlands' chart N° 105 "Straat Doerian en nabijliggende vaarwaters", issued in 1933, a method of colouring by hand was tried, although this chart also was engraved on copper. In order to be water-proof and to withstand erasion by rubber or knife, a solution of oil colour in turpentine was used.

SIAM : Although it has no special remarks to submit at present, the Siamese Hydrographic Office would be inclined to comply with the resolution adopted by the majority of the States Members concerning this question.

U. S. A. HYDROGRAPHIC OFFICE (Letter of 17th February 1934): Apart from proposals Nos 1 (i) and 4, the U. S. A. Hydrographic Office is not in agreement. It believes, in fact, that wire-drag operations should be primarily considered as one method of surveying operations for the purpose of checking or obtaining soundings to be used on charts. To give undue prominence to dragged areas on charts would tend to develop in mariners a sense of security not justified by the accuracy of the method. When, for special reasons, it may be found desirable to indicate a dragged area, it will be indicated on charts published by the U. S. A. Hydrographic Office by a green tint or by a suitable notation, or by both. The use of an additional symbol to indicate dragged areas is considered an unnecessary complication to the mariner.

The Hydrographic Office suggests, in the event that the proposals of the Directing Committee are adopted by other nations, that consideration be given to using a broken or dashed line to enclose sounded areas instead of the thin unbroken line proposed under 2 and 1 (iii).

U. S. A. COAST AND GEODETIC SURVEY (Letter dated 15th February 1934).

Question 1 (i) Yes (optional).

1 (ii) No, except in special cases where soundings are lacking.

1 (iii) United States uses colour washes.

Question 2 (a) and (b) Impracticable on account of generally complicated patterns.

The following comments furnish in greater detail the reasons for the action proposed in each case :

The wire drag is a surveying device to supplement other methods of ascertaining depths in waters in which detached rocks abound. It is the opinion of this Bureau that dragged areas generally should not be indicated on the charts by tint or otherwise. Possible exceptions are charts of areas in which deep water extends throughout the main channels. In these cases a wire drag examination to a fixed depth beyond the draft of all vessels determines that no obstructions occur to the fixed depth determined by the drag. A tint over certain channels on charts of such areas indicates that these channels have been dragged to that fixed depth. Valuable information is thus furnished the mariner without undue complication of the charts and permits him to navigate such areas with a reasonable degree of security. The charts of the inside passages of Alaska, on which tint is used by the Coast and Geodetic Survey, are examples of the conditions under which this method should be used.

Over areas of relatively shoal depths approaching the drafts of various classes of vessels, it is necessary that the drag be set at various depths and the indicating on the chart of these varying depths would complicate the chart to such an extent as to confuse the ordinary navigator. In addition, such relatively shoal areas can be considered as free from obstructions only immediately after an examination by the drag. Any subsequent obstructions, such as wrecks, would properly nullify the assurance of safety conveyed by a tint. In case such an obstruction in a tinted area were struck by a vessel, undeserved discredit would be thrown upon all such indicated areas, and the very useful purpose of wire drag completely destroyed.

It is considered preferable, therefore, except possibly in the exceptional case cited, that charts, sailing directions and Coast Pilots contain statements regarding examinations by wire rather than that such indications be shown on the charts by tinting or otherwise.

Summary of the Question :

The above-quoted developments show that proposals 1 (i) and 1 (ii) are not favoured by the majority of votes.

All other paragraphs, on the contrary, have met with a certain weight of opinion in their favour.

With reference to this inquiry and in consideration of the various opinions expressed by the Hydrographic Offices, the Directing Committee of the International Hydrographic Bureau proposes to submit new proposals for the representation of swept areas on charts to the next International Hydrographic Conference.

