

10th CSPWG MEETING
Wellington, New Zealand, 21-24 January, 2014

Paper for Consideration by CSPCWG
Reorganization of INT1

Submitted by:	Secretary
Executive Summary:	Arising out of a discussion about data quality indicators at CSPCWG9, the INT1subWG were invited to consider options, consequences and scope of rearranging INT1.
Related Documents:	INT1; CSPCWG10-11.1A
Related Projects:	

Introduction / Background.

Extract from CSPCWG9 report: Reorganization of INT1. The various options for some rearrangement of INT1, from minor changes to the addition of completely new sections, removal of duplication and composite symbols were briefly discussed. It was decided that it would be better to ask the INT1subWG to draw up a paper considering the main options, scope and consequences (without committing too much time or effort at this stage), before reporting back to the full WG. J Wootton offered to assist with this initial exploration.

ACTION 31: INT1subWG to consider options, consequences and scope of rearranging INT1. J Wootton (AU) to also contribute.

Analysis / Discussion.

The INT1subWG met in Cadiz in July 2013 and the participants examined a draft 'Possible re-organization of INT1 - options paper' submitted by the Secretary. Various amendments were made to the draft at that meeting and by following correspondence. The resultant revised paper is at Annex and is now offered to the CSPCWG for further discussion and decision about the way forward.

Action required of CSPCWG. The CSPCWG is invited to:

- a. Consider the various options outlined in the 'options paper' at Annex;
- b. Advise the INT1subWG whether it approves the drafting of a new 'data quality section I40' in INT1 (Recommendation 1);
- c. Advise whether it agrees in general with the proposals by Section in Recommendation 2;
- d. Advise on specific matters arising if Recommendation 2 should be implemented, especially:
 - Sections H, J and R: should all these abbreviations be retained as at present, even though they duplicate abbreviations in the Index of Abbreviations'?
 - What title should be given to the revised Section K?
 - Should K31 be transferred to J16 or J40?
 - Is the new light vessel symbol better at P6 or Q32?
- e. Advise the INT1subWG whether any reorganization arising from this paper should be included at the next round of INT1 new editions, or the following one.

Possible re-organization of INT1: options paper

Introduction

From Record of CSPCWG9 (2012) Item 8.6:

Reorganization of INT1. The various options for some rearrangement of INT1, from minor changes to the addition of completely new sections, removal of duplication and composite symbols were briefly discussed. It was decided that it would be better to ask the INT1subWG to draw up a paper considering the main options, scope and consequences (without committing too much time or effort at this stage), before reporting back to the full WG. J Wootton offered to assist with this initial exploration.

ACTION 31: INT1subWG to consider options, consequences and scope of rearranging INT1. J Wootton (AU) to also contribute.

Possible changes under consideration

Various suggestions have been made for rearranging aspects of INT1. Some have already been achieved, such as

- Rearranging the Abbreviations, to include INT abbreviations emboldened within the Index of Abbreviations (in lieu of a separate listing, which was transferred to S-4 B-122)
- Removing sections G and O (by adding terms to the main index at the back)
- Removing INT symbols from Section U
- Removing section letters after Section U.

Other more significant suggestions for rearranging, not yet implemented, include:

1. An IHB tri-lingual version of INT 1, with an IHO approved symbol library. Although this remains an ambition, it is accepted that there is currently no possibility of pursuing this. Note: As a compromise suggestion, the subWG considered that an Annex to S-4, with each symbol shown in INT 1 order, with agreed English, French and Spanish terms alongside, would be useful for hydrographic offices. As no international symbol library is available, the symbols used would be those in S-4 (mostly currently derived from UK symbols). The WG rejected this suggestion at CSPCWG5.
2. Eliminating combination symbols (such as 'Anchoring prohibited' area N20, which combines a symbolized limit with a point symbol).
3. Eliminating symbol / legend combinations (such as 'Explosive Dumping Ground' N23.1, which combines a symbolized limit with a legend).
4. Eliminating entries which are simply legends or abbreviations (which are listed in the index of abbreviations and therefore constitute duplication).
5. A general rationalization of Sections K and L proposed by Germany (CSPCWG 7 and 8); this proposal included possible different levels of change. For details, see Appendix.
6. Addition of a new 'data quality' section (or possibly extension of existing Section I) proposed by Australia (CSPCWG9). (This was also noted in HSSC4 Minutes 5.5: 'Australia noted that there was no single place in the INT1 document where all guidance on data quality indicators could be found. It was agreed that the grouping of such guidance would be discussed at the next CSPCWG meeting').

CSPCWG has avoided major restructuring of INT1 so far, because of:

- a. The possible impact on chart user / mariner, balancing slimmer, simpler publication against familiarity with existing layout and usefulness of portraying common charted features such as anchoring prohibited.
- b. The assumed implications for other related IHO and national HO documents which reference INT1 (or at least use the same numbering system), eg: S-57, S-52, or even use the same organizational layout, eg: US Chart 1 Edition 12, UK NP5012. The more reorganization of INT1, the greater the impact on such documents: removing duplications may have little impact (and could be applied to other documents when they are revised), while moving items would probably have more.

If these 2 'reasons' are agreed, a possible way forward could be to 'score' each proposal and option against the impacts? Eg H/M/L impact on 'a' and 'b' above. This scoring suggestion has not been taken further by the subWG.

Another consideration could be how common (or rare) a feature is on charts; is INT1 intended to be completely comprehensive and include all rare features? Or is it the rare features which are the most important (as the most likely not to be immediately recognised)? Not directly discussed at the subWG meeting, but relates to the next point.

An important consideration will be the extent to which the needs of chart compilers, as opposed to chart users, are taken into consideration. At present, the only addition to help compilers is the inclusion of S-4 cross-references in column 5. Therefore, one objection to removing entries is that the associated cross-reference to S-4 will also disappear. But balancing this is that, to really fulfil this need, every possible chart feature (including, and perhaps especially, rare features) needs to be in INT1, simply so that a cross-reference to S-4 can be supplied; that is not currently the case. The subWG do not wish to encourage compiler over-reliance on INT1 which by-passes S-4. Nevertheless, some HOs which have no national language translation of S-4 available may rely much more heavily on INT1 as a cartographers' guide. (After-meeting note: Germany plan to translate the updated sections of S-4.)

Options

1. Considered to be out of scope for this paper:

- An IHB tri-lingual version of INT1,
- a common symbol library,
- a 'symbol annex' to S-4,
- a change to landscape format and the inclusion of ECDIS symbols (as US Chart 1).

However, keeping some of these in mind for future impact (eg a possible totally new product), means it may be better to avoid major reorganization of INT1 at present.

2. Eliminating combination symbols (this is also the thrust of Germany's paper to WG7 & 8 on Sections K & L).

Many symbols are placed in graphics with other symbols to provide context, such as C3 (cliffs - which also includes a section of coastline), D14 (cutting - which includes a section of road). These are useful to aid comprehension and should not be removed.

The situation where symbols are included in a limit, such as an anchoring prohibited area, is a combination symbol. The symbol is sometimes reduced in size when included in a line (eg M16 precautionary area, M40.2 reporting line) but remains clearly

the same symbol. There are many (and increasing) examples, which could all be eliminated, although an explanation of this practice would need to be given somewhere (probably in the introduction / schematic layout). However, including examples of symbol-added limits nested with centred symbol limits (for smaller areas), as N20, aids understanding without adding significantly to INT1 size, so are not listed below for deletion.

3. **Eliminating symbol / legend combinations.** These are more common than the symbol combinations. In some cases it can be argued that they are useful in identifying what sort of limit would be used for a particular area (eg Explosives dumping ground will have magenta 'T-pecks', a spoil ground will be black dashes, an EEZ will be a continuous magenta line). This is probably more useful for the compiler; the chart user, seeing the legend together with its limit, will easily grasp the meaning. Although INT1 is not intended to be a compiler guide (that is the function of S-4), we must recognise that it does get used as a quick reference by compilers (via column 5) and thereby assists chart standardization; however, its utility for the compiler must not compromise the best design for the user.

Another issue is where there is a choice of a symbol or legend, eg salt pans, marsh, wooded; in such cases, it may be wise to retain the alternative in INT1, even though its meaning is self evident, simply to inform the user that the symbol will not always be used.

4. **Eliminating entries which are simply legends or abbreviations.** Because these are listed in the abbreviations index, is there any value in listing them in sections, unless the term adds some explanation which cannot readily be included in the abbreviations list? However, in some cases, it may be useful to group related abbreviations together (eg tide levels in Section H, seabed types in Section J, Fog signals in Section R).
5. **A general rationalization of Sections K and L proposed by Germany.** See CSPCWG7 paper at Appendix. This is generally covered by (2) above. Germany proposes that the title of this section should be simplified to 'Obstructions'. While they also propose moving K31 (Foul ground) to K6 (ie as a 'general' obstruction symbol), this one symbol does not fit comfortably under a general heading of obstructions, as that is exactly what it is not! Possible solutions to this would be to
 - widen the scope of the section to 'Obstructions and foul ground', or
 - move K31 into Section J (J16 or J40), categorizing it as a seabed type.

The proposal by Germany considered the needs of databases, but that should not affect the design and content of INT1. Of course, in databases HOs are free to break these composite symbols into their component parts. INT1 is a user guide; how HOs manage their symbol database should not affect how INT1 is designed to enable the best chart comprehension for users. Nevertheless, Section K as currently constituted with sub-section 40 onwards mainly covering aquaculture, with the unspecified (general) obstructions in 40-42 after the various specified obstructions, is illogical.

6. **Addition of a new 'data quality' section.** This derives from a proposal from Australia at WG9 (also noted at HSSC4). The following is an extract from CSPCWG9-08.6A:

Australia suggested:

- (as a minimum) transferring K2 and K3 into section I (note that this would affect the proposal at '5' above), or, more radically;
- reorganizing the first part of section I as 'Depth quality indicators', or;
- adding a completely new section 'O' for 'Depth quality indicators'.

If reorganizing Section I, the possible new entries in the first sub-section could be:

- ‘reliable’ sounding (currently I10)
- ‘unreliable’ sounding (currently I14)
- ‘unsurveyed safe clearance’ (currently K3)
- ‘swept depth’ (currently K2)
- ‘approximate depth contour’ (currently I31)
- ‘no bottom found’ (currently I13)
- ‘position approximate’ (currently B7: although this should never be associated with a simple sounding, it can be used with a sounding over an obstruction, for which the position is approximate)
- ‘position doubtful’ (currently B8)
- spoil grounds (currently N62)
- extraction areas (currently N63).

Numbers 1-4 are currently occupied (and cannot be reused, even though we have decided to make I4 obsolescent). Therefore, including all these will require I5-14, which overlaps with existing numbers in the ‘Soundings’ sub-section. This need will depend on whether we include all the above. If we do, some will need to be repeated, eg B7 is certainly still required for features other than depths so belongs in section B too.

Other options could be to:

1. make I1-14 ‘Depth quality indicators’ and reduce the ‘soundings’ sub-section to I15-20 (with only 2 entries at present), leaving existing I10-14 unchanged.
2. create new sub-section I40 for ‘Depth quality indicators’,
3. utilize the empty section O.

Option 1 allows insufficient space, unless some of the above are excluded. It also allows no space for any new data quality indicators (eg a new line symbol for discontinuity between surveys); a new symbol for ‘unreliable sounding’ (proposal rejected at WG9); a new symbol ‘to indicate that a thorough target investigation has been undertaken over a wreck or obstruction, and the depth and position has been ascertained to the best standard currently available, in line with IHO standards’ (see CSPCWG9-08.11A – rejected at WG9). Other more acceptable cases could arise. It also retains the illogical layout of having special cases preceding the ‘general’ standard sounding at I10.

Option 2 may leave us with some duplication (unless we remove the old entries).

Option 3 has the same issue as 2; it also seems too early to reuse this section for something completely different from its former use and it contravenes the fairly recently issued B-151.2 on ‘retired’ INT1 numbers (unless we start at O100).

All these options have some drawbacks. The subWG also considered a variation on Option 1. One of the problems with INT1 is the inflexible numbering system. A better system would be to have each sub-section numbered, eg I1 and then break that down into I1.1 and I1.1.1 etc. (This system is used in UK’s NP5012). The next subsection, currently beginning at I10 would become I2. It is not practicable to change the whole of INT1 to follow this better system now (as it would badly affect all cross referenced documents), but it may be possible to break down the first sub-section in Section I, eg:

Soundings, Drying heights and Depth Data Quality Indicators

- 1.1 PA
- 1.2 PD
- 1.3 ED

- 1.4 SD
- 1.5 Rep
- 1.5.1 Rep (2010)
- 5 Swept depth (currently K2 – could leave there with reference)
- 6 Unsurveyed safe clearance (currently K3 – could leave there with reference)
- 7 Discontinuity between surveys?
- 8 Zone of confidence table?
- 9 Split: 9.1 Spoil Grounds; 9.2 Extraction areas
- 10 Sounding in true position
- 11 Sounding out of position
- 12 Least depth in narrow channel
- 13 No bottom found at depth shown
- 14 Unreliable sounding
- 15 Drying heights and contours above Chart Datum
- 16 Natural watercourse
- 17-19 spare

Recommendations

INT1 subWG debated the above options very carefully and recommend that:

1. Data Quality

- A new sub-section I40 on data quality indicators should be drafted
- It should include more 'explanation' narrative than the standard 'column three' terms
- The 'CATZOC' table to be included in this new section
- Section I should begin with I10 (a standard sounding), although a clear warning referring to the data quality sub-section would be advisable, in place of the existing I1-4

2. Removing unnecessary entries and other recommendations (by section)

A – no change required.

B1-3, 9-16, 40-54 could be removed, all covered by abbreviations list. **B7-8** are useful to provide explanation of usage. **B60-67** serve no useful purpose and are best removed. **B82.2** serves to explain why a note rather than symbol may be required and should be retained.

C – no change required.

D7 could be deleted. **D8** (Right Hand - RH), **D17** (middle) are best retained. **D23.1-6**: perhaps **D23.1** suffices, all the rest is self-explanatory. Could add 'Note: type of bridge may be stated'. **D24** is best retained, to explain clearance is below fixed structure. [NB: other changes to Section D to include footbridge and improve explanation of safety clearance already agreed]

E18 should be deleted. **E20** (RH), **E22** (Left Hand - LH), **E24** (RH), **E27** (RH), **E30**, **E33**, retain to show alternative depiction.

F3, F15, F16, F17 are all best retained. **F30 - F33 and F50** can be deleted.

H1-17 could all be deleted. But subWG considered it is useful to retain these all grouped together.

I: see above for proposed new data quality sub-section. **I25** retain to show special limit symbol.

J1-11, 33-39 could all be deleted. But subWG considered it is useful to retain these all grouped together.

K – amend title to ‘Navigation obstructions’ or ‘Hazards’.

New:

- **K4.1**, term ‘Unspecified obstruction (depth unknown)’, (replaces **K40 – RH**)
- **K4.2** ‘unspecified obstruction (depth known)’ (replaces **K41**)
- **K4.3** ‘area of unspecified obstructions’. (replaces **K40 – LH**)

Follow on ‘Note: If known, the abbreviation ‘Obstn’ may be replaced by the specific nature of obstruction, eg **Wk** (wreck), **Well**, **Turbine**. Symbol **K2** or **K3** may be added if appropriate’. (Replaces **K42**).

K31 – transfer to **J**, which is the section most relevant for quality of anchorage information. Could be **J16** or possibly open new sub-section **J40** for ‘artificial sea floor types’.

K43.1-2 - transfer to **K5.1-2**.

(**K40-43** can then be removed. Retitle section from **K44** onwards as **Aquaculture**.)

K45 is marginally useful for completeness.

L40-42 (labelled versions) seem unnecessary. Could simply have a note: ‘Contents may be stated, if known’.

Further Note on Sections **K & L**: Having done the above, it would be possible to remove **K26-27, K30, L21, L22, L24, L25, L43**.

M30 should be deleted.

N12.2-12.5 and 12.9 could all be covered by a note: Designation or purpose of anchorage may be stated’. **N23.2** requires a better explanation (ie that it may still contain explosive material). **N24** and **N34** are not very useful and should be deleted, but **N25** is useful (to distinguish from other cable areas). **N46-47** are useful to show the use of the continuous line. **N49** and **N62-65** are not useful and should be deleted.

P2-5 and **P7** are symbols listed elsewhere, with the addition of a light flare; it would be better to have one entry (**P1.2**, renumbering **P1** as **P1.1**) describing the function of a light flare, which includes an explanation about multicoloured flares. **P1.3** should then be used for all round circle. The **RH** column at **P11** can then be deleted. The list of colours could also be deleted (they are in the abbreviations lists) or retained in one place but with more compact layout. The subWG also considered that the new symbol for a Light Vessel would be better at **P6** than **Q32** and the actual symbol should be reconsidered at **WG10**.

P22-23 are not useful and should be deleted.

Q7 and **Q8** should be retained, but with a cross reference to the new **P1.2**.

Q30, Q31 and Q41 should be retained-

Q44 should be deleted.

Q50-62 are a residue of out dated buoyage systems and should be removed. Q63 should be moved to Q130.7.

Q120-122 are best retained.

R10-16 could all be deleted. But subWG considered it is useful to retain these all grouped together.

S - no change required.

T2-3 are not required, but T4 is useful to explain how pilots may be indicated when the boarding place cannot be charted.

T11, T14, T26 and T27 are not useful and should be deleted.

T20 should be divided:

- T20.1 (as existing T20)
- T20.2 (Signal station at position of light). Existing T25.2 should be included as obsolescent in column 4.

T22-31 and T33-36 could be explained by a brief note.

T32 should be retained.

Paper for Consideration by CSPCWG

New structure for INT 1 sections K (and L)

Submitted by:	GERMANY /BSH
Executive Summary:	Short and regroup sections K and L of INT 1
Related Documents:	S-4, INT 1, report of INT1 SubWG meeting 2010
Related Projects:	Discussions at several CSPCWG meetings and in BSH, e.g. on Foul

Introduction / Background

In the current sections K and L, there are too many symbols with the same meaning for safety. The mariner has no special interest to know what there is, he is only interested to know how many dangers to safe navigation there are.

Analysis / Discussion

Wreck, obstruction and rock data are managed in source data bases, e.g. HPD according to S-57 (S-101). ENC portrayal can be derived easily but, for the paper chart, a complex lookup table to define the symbols according to INT 1 is necessary. In the case of more simplified symbols with fewer attributes, the table can be simplified much more. In this way, redundant symbols in several sections can be avoided. If we use only one symbol for dangers and another one for "foul ground" (no longer dangerous to surface navigation) several descriptions can be added, e.g. Wk, Obstrn, Well, Turbine... In the first approach, we still have included the traditional symbols K 24, K 28 and K 29 which could also be cancelled. The deleted K 26 and K 27 will be replaced by K 4 and K 5. K 40, 41, 42 will be replaced by K 1, 4, 5; L 20, 21, 24 by K1 and K 4; K30 by K 3. K 43 can also be cancelled.

Conclusions

See the outcome below – new structure

Recommendations

Discuss this paper in a wider community, other IHO WGs over the next few years before the next editions of INT 1.

Justification and Impacts

Will impact S-101 structure and roles for the paper chart editor. Impacts on S-52 have not yet been identified.

Action required of CSPCWG

The CSPCWG is invited to:

- a) note the paper for further discussions before next editions of INT 1
- b) ask CSPCWG members to provide any ideas on whether or not they support the proposal and make additional contributions

Schiffahrtshindernisse

Obstructions **K**

Allgemeines		General	
1		<p>Gefahrenzone: Eine Gefahrenzone weist auf eine Gefahr hin, die durch das entsprechende Zeichen allein nicht deutlich genug gekennzeichnet ist (z.B. einzelne Felsen), oder sie begrenzt ein schwierig zu passierendes Gebiet mit zahlreichen Gefahrenstellen</p> <p><i>Danger line: A danger line draws attention to a danger which would not stand out clearly enough if represented solely by its symbol (e.g. isolated rock) or delimits an area containing numerous dangers, through which it is unsafe to navigate</i></p>	411.4 420.1
2		<p>Abgesucht mit Schleppgerät oder durch Taucher</p> <p><i>Swept by wire drag or diver</i></p>	415 422.3 422.9
3		<p>Tiefe unbekannt, die angegebene Tiefe kann jedoch als wahrscheinliche Mindesttiefe betrachtet werden</p> <p><i>Depth unknown, but considered to have a safe clearance to the depth shown</i></p>	422.5 422.9
4		<p>Schiffahrtshindernis, geringste Tiefe nur durch Lotung bekannt</p> <p><i>Obstruction, least depth known by sounding only</i></p>	422.9
5		<p>Schiffahrtshindernis, geringste Tiefe bekannt, abgesucht mit Schleppgerät oder durch Taucher</p> <p><i>Obstruction, least depth known, swept by wire drag or diver</i></p>	422.9
6		<p>Unrein, z. B. Wrackreste, nicht länger gefährlich für die Überwasserschifffahrt, jedoch beim Anker, Fischen usw. zu meiden</p> <p><i>Foul ground, e.g. remains of a wreck, no longer dangerous to surface navigation but to be avoided by vessels anchoring, trawling etc.</i></p>	422.8

K

Felsen		Ergänzende nationale Zeichen: Supplementary national symbols: a		Rocks
Höhenbezugsflächen Plane of reference for heights → H		Tiefenbezugsflächen Plane of reference for depths → H		
10		Fels ständig über Wasser, Höhe über Höhennull	<i>Rock (islet) which does not cover, height above height datum</i>	421.1
11		Fels trockenfallend, Höhe über Kartennull	<i>Rock which covers and uncovers, height above chart datum</i>	421.2
12		Fels in Höhe des Kartennulls	<i>Rock awash at the level of chart datum</i>	421.3
13		Unterwasserklippe, Tiefe unbekannt, gefährlich für die Überwasserschifffahrt	<i>Underwater rock of unknown depth, dangerous to surface navigation</i>	421.4

K Schifffahrtshindernisse

Obstructions

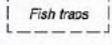
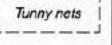
14		Unterwasserklippe, Tiefe bekannt <i>Underwater rock of known depth</i>		421.4
14.1		innerhalb des entsprechenden Tiefenbereichs <i>inside the corresponding depth area</i>		
14.2		außerhalb des entsprechenden Tiefenbereichs gefährlich für die Überwasserschifffahrt <i>outside the corresponding depth area, dangerous to surface navigation</i>		
15		Für die Überwasserschifffahrt ungefährliche Unterwasserklippe, Tiefe bekannt <i>Underwater rock of known depth, not dangerous to surface navigation</i>		421.4
16		Korallenriff, ständig unter Wasser <i>Coral reef which is always covered</i>		421.5
17		Brandung <i>Breakers</i>		423.2

Wracks		Ergänzende nationale Zeichen: <i>Supplementary national symbols:</i> b-d	Wrecks
Tiefenbezugsflächen <i>Plane of reference for depths</i> → H			
20		Wrack, Rumpf ständig über Wasser, Darstellung in großmaßstäbigen Karten <i>Wreck, hull never covers, on large-scale charts</i>	422.1
21		Wrack, trockenfallend bei Niedrigwasser, Darstellung in großmaßstäbigen Karten <i>Wreck, covers and uncovers, on large-scale charts</i>	422.1
22		Wrack, ständig unter Wasser, Tiefe bekannt, Darstellung in großmaßstäbigen Karten <i>Submerged wreck, depth known, on large-scale charts</i>	422.1
23		Wrack, ständig unter Wasser, Tiefe unbekannt, Darstellung in großmaßstäbigen Karten <i>Submerged wreck, depth unknown, on large-scale charts</i>	422.1
24		Wrack, von dem Teile des Rumpfes oder der Decksaufbauten bei niedrigstem Wasserstand (Kartennull) sichtbar sind <i>Wreck showing any portion of hull or superstructure at level of Chart datum</i>	422.2

Schifffahrtshindernisse

Obstructions **K**

25	 <i>Masts</i>	Wrack, von dem nur ein Mast oder Masten über Kartennull sichtbar sind <i>Wreck of which the mast(s) only are visible at Chart Datum</i>	422.2
28		Wrack, geringste Tiefe unbekannt, möglicherweise gefährlich für die Schifffahrt Warnung: Nicht alle Wracks, die möglicherweise gefährlich sind, werden durch dieses Symbol dargestellt, siehe Warnung unter K29. <i>Wreck, least depth unknown, considered to be potentially dangerous to some surface vessels</i> Caution: Not all wrecks which are potentially dangerous have the symbol, see caution at K 29.	422.6
29		Wrack, geringste Tiefe unbekannt Warnung: In vielen Karten wird dieses Zeichen für Wracks unbekannter Tiefe, die aber mit mindestens 20 m angenommen wird, verwendet. Solche Wracks stellen eine Gefährdung für Schiffe mit einem Tiefgang von mehr als 20 m dar. Anmerkung: Dieses Zeichen wird auch für alle Wracks in über 200 m Tiefe verwendet. <i>Wreck, least depth unknown</i> Caution: On many charts, this symbol is used for wrecks of unknown least depth, but considered to be covered by more than 20 m of water. The wrecks thus represented are then potentially dangerous to vessels with a draught greater than 20 m. <i>Note:</i> This symbol is also used for all wrecks in water over 200 m deep.	422.6

Weitere Schifffahrtshindernisse		Other Obstructions	
Tiefenbezugsflächen <i>Plane of reference for depths</i> → H		Seetang, Seegras <i>Kelp, seaweed</i> → J	Unterwassereinrichtungen <i>Underwater Installations</i> → L
43.1	 	Pfahlwerk unter Wasser <i>Stumps of posts or piles, wholly submerged</i>	327.5
43.2		Pfahl, Stange, Stamm oder Stumpf unter Wasser (mit genauer Position) <i>Submerged pile, stake, snag or stump (with exact position)</i>	
44.1		Fischstaken <i>Fishing stakes</i>	447.1
44.2		Fischreuse, Fischwehr, Thunfischnetz <i>Fish trap, Fish weirs, Tunny nets</i>	447.2
45	 	Fischreusengebiet, Thunfischnetzgebiet <i>Fish trap area, Tunny nets area</i>	447.3
46.1	 	Fischschutzgebiet <i>Fish haven</i>	447.5
46.2	 	Fischschutzgebiet mit Mindesttiefe <i>Fish haven with minimum depth</i>	

K Schiffahrtshindernisse

Obstructions

47		Muschelkultur, Austernkultur ohne Schiffahrtshindernisse <i>Shellfish beds with no obstructions</i>	 	447.4
48.1		Fischzuchtgebiet (in großmaßstäbigen Karten) <i>Marine farm (on large-scale charts)</i>		447.6
48.2		Fischzuchtgebiet (in kleinmaßstäbigen Karten) <i>Marine farm (on smaller scale charts)</i>		

Ergänzende nationale Zeichen		Supplementary National Symbols	
a		Ungefährliche Unterwasserklippe, Tiefe unbekannt <i>Non-dangerous rock, depth unknown</i>	† +
b		Unreiner Grund <i>Foul ground</i>	† <i>Unr.Gd.</i>
c		Unrein, geringste Tiefe bekannt <i>Foul area, least depth known</i>	† # (15 _r)
d		Unrein, geringste Tiefe bekannt, abgesucht mit Schleppgerät oder durch Taucher <i>Foul area, least depth known, swept by wire drag or diver</i>	† <u>#</u> (15 _r)