

2nd NCWG MEETING
Monaco 26-29 April 2016

Paper for Consideration by the Nautical Cartography Working Group (NCWG)

**U.S. Response to INT1 subWG paper, "Vacant Entries in INT1"
regarding Floating Barriers and Oil Retention Barriers**

Submitted by:	United States (NOAA)
Executive Summary:	Proposal to normalize the INT1 entries for floating barriers and for the implementation of a modified version of symbol F29.2
Related Documents:	INT1, <i>Symbols, Abbreviation and Terms used on charts</i> S-4, <i>Chart Specifications of the IHO</i> NCWG2-11.A , "Vacant Entries in INT1"

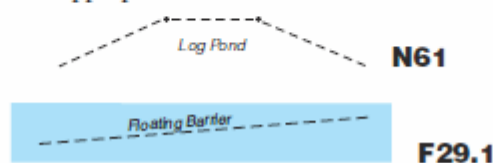
Introduction / Background

S-4 has one paragraph that lists various types of floating barriers and specifies (textually) a single symbol to portray them, but provides two example graphics for symbolization. INT1 has two entries, each showing different portrayals and each listing a different set of examples of barrier types. This is likely to give mariners the impression that different symbols are used for different barriers, which we do not believe is the intention of S-4 or INT1.

Analysis / Discussion

INT1 has two entries for floating barriers. One is at F29.1, "Floating barrier, e.g., oil barrier, security barrier" and another at N61, "Floating barrier, including log ponds, security barriers, ice booms, shark nets." Both of these reference S-4 paragraph B-449.2, shown below.

B-449.2 Floating barriers. The limits of log ponds (timber pounds, log booms), oil barriers, security barriers, ice booms, shark nets and any other floating barriers must be charted as a black dashed line (N1.1) with small black (solid) circles (F22) where there are posts, piles or other supports. A legend, for example: 'Log pond', 'Floating Barrier', or equivalent, should be inserted in the area or along the inside of the limit as appropriate.



Different lists of floating barrier examples

The INT1 entry at F29.1 lists two examples (preceded by "e.g."), see Annex A. The entry at N61 lists four examples (preceded by "including"), see Annex B. Although different, both of these grammatical structures imply that the list provided is not all inclusive. That is, there are other examples of barriers that could have been included, but are not.

The structure and content of these lists should be normalized. There is no clear case for which barriers are more likely to be present in ports versus other areas and limits outside of ports. Therefore, the same list should be used for both entries.

Recommendation 1:

Change the description for each entry (F29.1 and N61) to:
"Floating barrier, e.g., security, oil retention, log and ice booms, shark nets"

(INT1 uses "e.g." (12 instances), "including" (6 instances), and "such as" (1 instance) somewhat interchangeably. A future effort to standardize usage (as least for new entries) in INT1 and S-4 might be considered.

Different examples of floating barrier symbols

The two symbol examples shown in S-4 and INT1 are different. N61 shows "posts, piles or other

supports," as specified in S-4, while F29.1 does not. Since both entries describe the same type of feature, the same symbol should be shown at both entries.

Recommendation 2:

Change the symbols shown for each entry (F29.1 and N61) to be the same. Either an example showing piles, or two examples at each entry, one with piles and one without them. Different labels could be used on each example.

F29.2, "Oil retention barrier (high pressure pipe)"

Neither S-4, nor INT1 provide any definition for "oil retention barrier (high pressure pipe)". However, S-57 describes the two values of the ENC "Category of oil barrier" attribute as:

Oil retention (high pressure pipe): a pipe with holes from which air blows. When the air bubbles reach the surface they form a barrier which prevents the spread of oil.

Floating oil barrier: a floating tube shaped structure, with a curtain (2 metre) hanging under it, below the surface, which prevents the spread of oil.

"Oil retention barrier (high pressure pipe)" systems are also commonly called a "pneumatic oil barriers," or "air bubble curtains." See images in Annex C. The bubble curtain term is a more general term and can also refer to uses that channel or otherwise restrict the movement of fish, or aerate water.

All of these consist of a perforated pipe installed below the water surface, from which air is forced causing a stream or curtain of bubbles to rise to the surface.

Recommendation 3:

Retain the entry for F29.2, but change the description from the current rather nebulous term to the more descriptive term of "Submerged pneumatic barrier pipe."

Adopt the magenta pipe symbol that is shown in the German INT1 for this feature.



Specify a more meaningful label, such as **Air bubble curtain**, **Air curtain**, **Bubble curtain**, or similar term. "Oil barrier" does not adequately inform mariners as to the nature of the obstacle. The suggested labels are also more intuitive and more likely to be understood than "pneumatic barrier"

Modify S-4 to reflect the INT1 implementation of this symbol.

Conclusions

The two varying descriptions and representations of floating barriers in INT1 could confuse mariners. The submerged pipes used for pneumatic barriers could be a hazard and should be charted

Recommendations

1. Change the description for each of F29.1 and N61 to:

"Floating barrier, e.g., security, oil retention, log and ice booms, shark nets"

2. Change the symbols shown for each entry (F29.1 and N61) to be the same. Either an example showing piles, or two examples at each entry, one with piles and one without them. Different labels could be used on each example.

3. Change the INT1 description of F29.2 from the current rather nebulous term to the more descriptive term of "Submerged pneumatic barrier pipe."

Adopt the magenta pipe symbol that is shown in the German INT1 for this feature.

Adopt meaningful label, such as Air bubble curtain, Air curtain, Bubble curtain, or the like to be used with the symbol

Modify S-4 to reflect the INT1 implementation of this symbol.

4. Consider standardizing the use of "e.g.," "including," and "such as" in future modifications of S-4 and INT1.

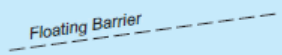
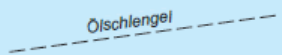

Action required of NCWG

NCWG is invited to:

- a. consider implementing the recommendations stated above
- b. make any required edits to S-4 and INT1.

ANNEX A: F29.1 INT1 entry and images of each example barrier type listed

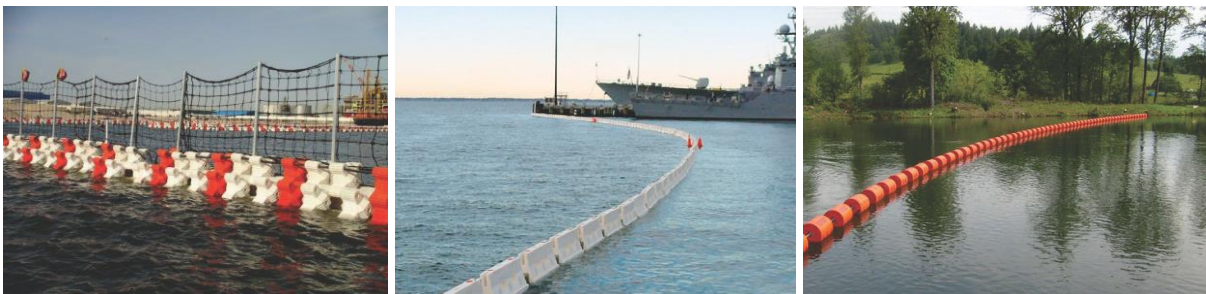
F29.1 Floating barrier, e.g., oil barrier, security barrier

29.1	 <p>Floating Barrier</p>	Schwimmende Sperre, z. B. Ölschlengel, Sicherheitssperre <i>Floating barrier, e. g. oil barrier, security barrier</i>	 <p>Ölschlengel</p>	449.2
29.2		Ölsperre (Druckluftleitung) <i>Oil retention barrier (high pressure pipe)</i>	 <p>Ölsperre</p>	

Oil barriers

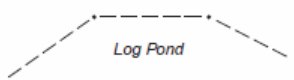
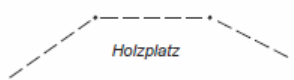


Security barriers



ANNEX B: N61 INT1 entry and images of each example barrier type listed

N61 Floating barrier, including log ponds, security barriers, ice booms, shark nets

61	 <p>Log Pond</p>	<p>Schlingel, Schwimmsperre (z. B. Balkensperren für Holzplätze), Sicherheits-, Eissperren, Hainetze <i>Floating barrier, including log ponds, security barriers, ice booms, shark nets</i></p>	 <p>Holzplatz</p> <p>449.2</p>
----	---	--	---

Log ponds



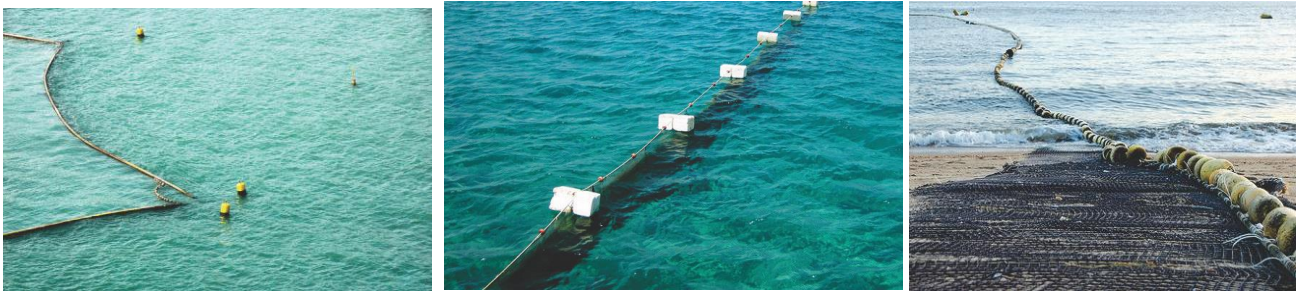
Security barriers



Ice booms



Shark nets



ANNEX C: Images of Pneumatic Barriers

F29.2, "Oil retention barrier (high pressure pipe)"

