

**1<sup>st</sup> IHO-HSSC Meeting**  
**The Regent Hotel, Singapore, 22-24 October 2009**

**Report to HSSC-1 on the creation and first outcomes of the Correspondence Group on  
Definition and Length of Coastline**

<b>Submitted by:</b>	SHOM – France (Vincent Donato)
<b>Executive Summary:</b>	This paper reports on the creation and program of work of a CG led by France on the DeStandardization of the Methods of Determination of the Length of Coastlines.
<b>Related Documents:</b>	CHRIS20-04.6A; 20 <sup>th</sup> CHRIS Meeting Final Minutes

### **Introduction / Background**

Following a request from the European Commission, approved at the 28th meeting of the North Sea Hydrographic Commission, the 20<sup>th</sup> CHRIS Meeting (November 2008) invited France, with the assistance of any volunteer Member States, to further study the feasibility of a standardised approach to the determination of the length of coastlines and to report to HSSC-1..

### **Creation of the WG**

An informal correspondence group was set-up during spring 2009. The members are : Chris Andreasen (USA), James MacGaughran (USA), Juha Korhonen (Finland), Wilfried Ellmer (Germany), Luciano Surace (Italy), Lamberto Lamberti (Italy), Michael Savvides (Cyprus), Susanne Boiesen (Denmark), Jens Gottlied (Denmark), José Millan Gamboa (Spain), Elizabeth Dunn (UK), Igor Karnicnik (Slovenia) and Vincent Donato (France).

### **Discussion / Analysis**

To begin with, the group exchanged views on the problem in an informal brainstorming session. Each member had the opportunity to express their own understanding of the question and to depict the situation in their own country.

Afterward, a brief resumé was made of the discussions. This enabled a work program to be developed.

Regarding the definition of the coastline, there was consensus that the line to be considered should be the High Water Line (HWL) which is the only line we can always “see”. Members also agreed that the coastline to be delineated should be based on imagery.

The group then went on to begin to address a number of questions:

- What are the needs?

*Interim conclusion:* the definition of coastline will be different according to the intended use, such as fishing quotas, cadastral regulation or pollution cleaning. For the purpose of international standardization, we must find a generalised case; which means that we have to identify these predominant user needs. However, we could give ourselves a more general goal: we all have methods for defining our own national coastline; these methods are more or less formalized and share great commonalities. The goal of this WG could be fulfilled where we are able to identify inconsistencies between our methods and try to reduce them by providing recommendations for standardization.

- What scale do we want to use?

*Interim conclusion:* The question of scale is somehow related to the previous one. But once again we could, in a first time, have a modest approach: what scale could we agree on, that would fulfil most of our needs without shattering our working methods?

It was suggested a scale range of 1:100,000 to 1:300,000 to fit land-survey satellites’ resolution. This would have the advantage to reduce the acquisition time (as compared to aerial imagery) and to alleviate

the dynamic aspect of the coastline.

However, many nations produce their coastlines between 1:10,000 and 1:25,000, based on aerial imagery.

We have to study more precisely the impact of a scale jump on the length of the coastline. Some suggested that there is no significant changes from scale 1:100,000 to 1:250,000, and between 1:100,000 and 1:5,000.

- Which generalization method should be used?

*Interim conclusion:* Provided that we all agree on a standard scale, we could also decide what generalization method(s) to be used. For instance if 1:25,000 is chosen, a nation producing its own coastline at 1:10,000 could use a standard method to generalize it, in order to get consistent results.

- How do we deal with the dynamic aspect of the coastline?

*Interim conclusion:* The dynamical aspect has certainly to be taken into account. But once again, it is dependent of the scale we decide to work with. Beyond 1:100,000, the dynamic aspect is less visible. We may have to specify a minimum set of metadata to accompany either the coastline itself as a geographic feature or the result of the measurement.

- How do we measure river mouths?

*Interim conclusion:* This question is important as it may significantly influence the resulting length of the coastline. Some Member States do not have clear rules about the delineation of coastline inside river mouths. Sometimes it is considered that the “coast” goes as far as the first navigation obstacle (e.g. sluice), sometime the limit is the chart datum... A way to address this problem would be to refer to the definition of baseline into river mouths as defined by UNCLOS (PartII article 9).

- What about artificial structures on the shore?

*Interim conclusion:* All will agree that harbours are part of the coastline and have to be counted in, but maybe some other objects are more ambiguous and have to be clarified, for instance bridge piles, floating docks, piers, jetties...

Official documentation on this subject (UNCLOS) suggests us, first, that harbours are part of the coastline and second, that only permanent structures that form an integral part of the harbour system can be included in the measurement of coastline.

## **Conclusion**

The questions above have formed the framework for the continuation of work by the group.

## **Action Required of HSSC**

The HSSC-1 is invited to:

take **note** of this report, and

**decide** on any further action required of the Committee.