

7th Meeting of the Inter Regional Coordination Committee (IRCC-7)

Mexico City, Mexico, 1-3 June 2015

Paper for Consideration by IRCC

Resolution on Maximising Access to Hydrographic Information

Submitted by:	UK
Executive Summary:	This paper proposes a series of measures to increase awareness of the importance of improving access to hydrographic information amongst opinion formers and decision makers. Specifically, it provides drafts of an IHO resolution; best practice guidance; a leaflet; and an MSC Circular Letter
Related Documents:	IRCC7-11B <i>Guidance on Access to Bathymetric Data Collected for Commercial or Scientific Purposes</i>
Related Projects:	None

Introduction / Background

1. The benefits of maximizing the use of hydrographic data collected for commercial purposes were discussed at IRCC6 and an Action (IRCC6/47) was recorded to “Propose an IHO resolution on maximizing access to hydrographic information when delivering the IRCC report to the EIHC”. The status of IRCC6/47 according to IRCC7-03B is that: “It was reported to the EIHC5 that it needs further consideration to be done. EIHC took note the importance of this issue and IRCC intent to develop this initiative further. It will be reviewed at the IRCC 7”. Status “ONGOING”.
2. This paper seeks to stimulate further discussion on the topic and proposes specific actions to raise its profile amongst opinion formers and decision makers.

Analysis/Discussion

3. The IRCC proposal for an IHO resolution has not been developed, and so a draft resolution is provided at Annex A. To assist the implementation of this resolution, Annex B provides a draft of a leaflet which could be given to opinion formers and decision makers for them to use as an aide memoire. Annex C provides draft guidance for best practice in the sharing of bathymetric survey data to enable National Hydrographic Authorities to have access to data required to support Safety of Life at Sea and wider marine applications; it includes examples of contract clauses to ensure data are rendered to the hydrographic authority. Annex D is a draft MSC circular letter intended to garner support from the IMO community for this IHO initiative. Annexes B, C and D will require further work but are provided as well developed examples to support the principle of the proposed resolution.

4. UK believes that these proposals are complementary to the IHB Paper IRCC 7 xx.xx, “Guidance on Access to Bathymetric Data Collected for Commercial or Scientific Purposes”; and its Recommendations on “Providing an IHO reference publication that identifies best-practice mechanisms to improve national access to bathymetric and related hydrographic data collected for commercial or scientific purposes will be a useful guidance for national authorities” and “Incorporating best-practice guidelines in IHO Publication C-17”

Action Requested of IRCC 7

22. The Committee is invited to:

- a. Agree the wording of the draft IHO Resolution at Annex A
- b. Consider the value of the documents at Annex B, C, and D and agree a way forward.

ANNEX A
Draft IHO Resolution

TITLE	Reference	Last amendment (CL or IHC)	1 st Edition Reference
MAXIMISING THE USE OF SURVEY DATA	x/2015	CL xx/2015	NEW

- 1 Recognizing that:
 - a) Large areas of the world's seas are either un-surveyed or inadequately surveyed;
 - b) The cost of bathymetric survey is high;
 - c) Most nations are not suitably resourced to provide complete surveys of their waters;
 - d) Surveys are conducted for commercial, scientific and other reasons but less than 20% of the data collected is made available to the National Hydrographic Authority.

- 2 Further recognizing that:
 - a) Member States of the International Maritime Organisation (IMO) who are signatories of the Safety of Life at Sea (SOLAS) Convention have a responsibility under Chapter V regulation 9 to provide Hydrographic Services. Regulation 9.1 states "Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and the publication, dissemination and keeping up to date of all nautical information necessary for safe navigation";
 - b) Incomplete survey coverage can be a potential hazard for shipping, which could cause loss of life or extensive pollution;
 - c) Increasing vessel sizes have increased demand for increased quality and coverage of bathymetric data;
 - d) Increasing traffic density, and competition with other marine activities in certain waters, put increasing pressure on decision making based on hydrographic information.

- 3 Furthermore recognizing that:
 - a) Inadequate bathymetric knowledge could be constraining economic development;
 - b) Hydrography underpins almost every other activity associated with the sea, including:
 - resource exploitation - fishing, minerals, alternative energy sector;
 - environmental protection and management;
 - maritime boundary delimitation;
 - maritime defence and security;
 - tsunami flood and inundation modelling;

- coastal zone management;
- tourism – limits the areas available for cruise ships.

- 4 It is resolved that IHO member States shall seek improved access to commercial, scientific and other surveys, to improve knowledge of seabed topography, by:
- a) Engaging with national Governments, Departments and other stakeholders to recommend hydrographic survey utilisation best practice;
 - b) Promoting the value of national coordination of hydrographic data in support of wider marine activities;
 - c) Utilising data from emerging technology such as LIDAR, satellite derived bathymetry and crowd sourcing, to increase survey coverage.
- 5 It is further resolved that the IHB will:
- a) Produce a leaflet promoting the need for, and benefits of, maximising the use of hydrographic survey data;
 - b) Engage with the IMO to encourage SOLAS signatories to maximise the availability of survey data to hydrographic authorities - publishing an MSC Circular would be beneficial;
 - c) Engage with other stakeholders, such as NGOs to promote the benefits of improved access to hydrographic surveys.
6. It is recommended that hydrographic survey utilisation best practice should include:
- a) Contractual arrangements with survey operators to provide appropriate bathymetric information to National Hydrographic Authorities for use in navigational products and for wider marine use, without compromising commercial or other sensitivities. This may be generalised or reduced density data;
 - b) Notification to the National Hydrographic Authority of intended survey operations to allow consideration of what data already exists, what will be collected and what is required by the National Hydrographic Authority to fulfil national and international obligations;
 - c) An obligation on all marine survey operators to report any information that might cause a risk to marine activities, particularly with respect to SOLAS dangers to navigation.

ANNEX B

Draft Leaflet on Maximising the Use of Survey Data

The following pages are intended to be produced as a leaflet for the following purposes:

- To explain the need for access to more survey data
- To seek support for the provision of more data to hydrographic offices
-

BLANK PAGE (reverse of the above)

The Need to Maximize the use of Hydrographic Survey Data

Insufficient knowledge of seabed

The surface of Mars is better mapped than most of the Earth's oceans.

The chances are that the charts of the waters surrounding your country are based on inadequate or incomplete surveys* and this could, at best, be constraining the economy of your nation and at worst is a potential hazard for shipping that could cause loss of life or extensive pollution.

Whether you are a government minister or officer or working in the maritime industry you can help. Currently much of the commercial and scientific survey work undertaken worldwide each year is not made available to improve nautical charts; this is often due to lack of knowledge of the requirements. You can assist by promoting understanding of this issue and encouraging adoption of 'best practice' procedures as outlined in this leaflet. Please pass the information on to any colleagues also involved in the exploration and exploitation of continental shelf resources or the regulation of shipping; adoption of a best practice approach will be to the benefit of maritime safety and the wider maritime economy.

*Details are available in IHO publication C-55 available at www.ihoint.org

Hydrographic Survey is Important

In addition to being essential for producing nautical charts which facilitate safe and efficient navigation of ships, hydrography underpins almost every other activity associated with the sea. The range of activities it has to support continues to grow but includes:

- *resource exploitation - fishing, minerals, alternative energy sector*
- *environmental protection and management*
- *maritime boundary delimitation*
- *maritime defence and security*
- *tsunami flood and inundation modelling*
- *coastal zone management*
- *tourism – limits the areas available for cruise ships*

International Obligations

There are also international obligations.

Member States of the International Maritime Organisation (IMO) who are signatories of the Safety of Life at Sea (SOLAS) Convention have a responsibility to provide Hydrographic Services. SOLAS Chapter V regulation 9.1 states "Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and the



publication, dissemination and keeping up to date of all nautical information necessary for safe navigation".

But even amongst those nations with active and well-funded hydrographic programs, many sea areas remain un-surveyed, or need resurveying to provide higher quality and up-to-date information.

Much survey data does not contribute to navigational safety

It is estimated that less than 20% of all survey data collected by various means and for multifarious purposes is received by hydrographic authorities. This is clearly an inefficient use of costly resources. In many cases it is a lack of understanding of the value of the data to others, and fears that there may be significant cost or resource overhead in supplying the data, that prevents its wider use.

There will inevitably be occasions when for good reasons bathymetric survey information will need to be withheld, for example due to commercial or other sensitivity. However in these cases consideration should be given to reviewing the situation at a later date when these sensitivities are less of a concern.

Simply through educating stakeholders in government and industry, and facilitating and encouraging best practice, it will be possible to make significantly increased

use of survey work being undertaken for specific projects, such that it contributes to safe navigation and central utilisation of marine spatial data to support wider applications.

Stakeholders

Government Departments:

Whether directly involved with the collection of data, or responsible for licensing blocks of the seabed for exploration / exploitation or introducing legislation that might require others to collect data as part of their obligations, departmental officials need to be aware of the wider value of any data collected and also of national obligations under the SOLAS Convention.

Development Companies:

Whether port or offshore developers, companies need to be aware of the wider value of the data collected to support their projects. It would be greatly beneficial if survey contracts specified whether data collected can be provided to the relevant national hydrographic authority.

Survey companies:

Survey companies are often bound by contracts which don't specifically allow for data to be provided to a hydrographic authority. Given an understanding of potential national and regional benefits, surveyors should be encouraged to ask for clarification to realise these benefits. Closer cooperation between industry and

government would engender mutual benefits.

Hydrographic Authorities:

These are generally Hydrographic Offices (HO) responsible for the provision of nautical charts and publications of their national waters. A few HOs also have a responsibility for charting the waters of other nations. They are often (especially in the latter case) unaware of where a new survey is even being conducted, let alone have access to data which could enhance nautical charts and publications

Research Bodies

Although much data collected for marine research will be focused on specific parameters, it is usually collected within the context of water depth and position. The spatial data are valuable for navigation and other purposes.

Best Practice

Whilst new technology such as swath bathymetry and LIDAR has increased the speed with which bathymetric survey data can be collected the cost is still high and in many cases the availability of government owned survey vessels is diminishing. Achieving full hydrographic survey of their national waters is an unachievable target for most nations, even in the medium term; this makes it imperative that the widest use is made of any survey data that is collected.



The International Hydrographic Organisation (IHO) has produced a best practice guide to maximising the use of survey data to the benefit of safety of navigation and wider stakeholders. This focuses on the need for all stakeholders to recognise the benefit in data sharing.

Action Required

The IHO encourages the following stakeholders to understand the need, see the potential and spread the word:

- *IMO;*
- *National Government Departments;*
- *Development companies;*
- *Survey companies;*
- *Research bodies;*
- *Hydrographic Authorities.*

Cooperation between stakeholders could dramatically improve the availability of survey data which when held centrally will:

- Improve navigational safety;
- Aid coastal and offshore development;
- Improve environmental protection;
- Assist emergency planning and response;
- Stimulate tourism and leisure activities.

ANNEX C**Guidelines on Survey Data Provision Best Practice****The Need to Maximize the Use of Hydrographic Survey Data****Guidelines on Survey Data Provision Best Practice**

The following principles are provided as the basis for best practice in the sharing of bathymetric survey data to enable National Hydrographic Authorities to have access to data required to support Safety of Life at Sea and wider marine applications.

1. All stakeholders recognise that data held centrally by a National Hydrographic Authority can contribute to national obligations for safety of navigation, and be more widely accessible by others for environmental protection, economic development, disaster planning/response, and tourism/leisure activities.
2. All stakeholders recognise the importance of making best use of bathymetric data that is collected for whatever reason and understand their role in facilitating this.
3. All stakeholders should be seen as conscientious stewards within the maritime domain.
4. Those responsible for licensing offshore exploration/exploitation should, where possible, ensure that licenses include a requirement that any bathymetric information collected should be rendered to a hydrographic authority for inclusion in nautical products.
5. Exploration/exploitation companies should ensure that ITTs and contracts for hydrographic survey contain information on:
 - a. what companies should do if any dangers to navigation are found during the conduct of surveys;
 - b. whether survey information collected should be rendered by the survey company to a hydrographic authority and if so which one and in what form
 - c. what specific survey product(s) are to be provided for onward transmission to a hydrographic authority by the contracting company.
6. Where possible the companies, or their contractors, should provide advance notice to the hydrographic authority as to the areas to be surveyed and the nature of the bathymetric product that will be provided.
7. Hydrographic survey companies should check that ITTs and contracts are clear as to the requirements for provision of bathymetric data and where this is not the case, seek clarification from the contracting company without fear of prejudicing current or future work opportunities.
8. National Hydrographic Authorities should be aware of surveys being conducted in waters for which they are responsible and should welcome all information provided and ensure that it is considered for inclusion in existing or new nautical products. They should accept processed survey information (as opposed to raw data) as being suitable for this task.

9. National Hydrographic Authorities must recognise the proprietary nature of information provided and ensure that any restrictions or condition placed on its use are upheld.

Example Contract Clauses

For many national administrations there will be legal obstacles to enforcing the provision of bathymetric information through contractual obligation. The following are provided as examples that can be modified as necessary.

Restricted to the support of SOLAS

To assist in upholding commitments under the International Maritime Organization Safety of Life at Sea (SOLAS) Convention and as a condition of the grant of license, the licensee will ensure that any bathymetric survey data collected by them or any third party working on their behalf is made available, in a form suitable for updating nautical products, to [*national or international hydrographic authorities – as appropriate*]. The bathymetric information rendered may be processed and sampled to protect commercial interest and to minimise the cost of provision.

All dangers to navigation found during the conduct of surveys must be immediately reported to [*national hydrographic authority*] for wider promulgation to ensure safety of shipping.

Where, for any reason, the Licensee believes it is not possible to release bathymetric data as required by this condition then they must report this to the Licensor.

Wider use

To support safety of navigation and in the spirit of Industry best practice [the licensee /contracting company] will ensure that any bathymetric survey data collected as part of [Project XXX] is made available, in a form suitable to [*national or international hydrographic authorities – as appropriate*] for the maintenance of marine spatial data collections. The bathymetric information rendered may be processed and sampled.

ANNEX D**Draft wording for a proposed circular letter from the IMO Maritime Safety Committee**

Circular Letter No.????
[date]

To: All IMO Member States and Associate Members
Intergovernmental organizations
Non-governmental organizations in consultative status

Subject: Notification of IHO Resolution ??? on Maximising the Use of Survey Data

1. The Maritime Safety Committee, at its ?? session (date), noted The International Hydrographic Organisation (IHO) resolution to maximise the use of bathymetric survey data for the benefit of maritime safety.

2. Limited knowledge of the seabed continues to pose a potential threat to the safety of navigation, and may constrain economic development, environmental protection and disaster planning/response.

3. It is estimated that less than 20% of all survey data collected by various means and for multifarious purposes is received by hydrographic authorities.

4. IHO resolution ?? encourages IHO members to engage with their national governments and other stakeholders to jointly cooperate to improve the wider availability of bathymetric survey data.

5. IMO Members are requested to support IHO members in this endeavour.

6. The IHO has produced a leaflet outlining the need and promoting the benefit of wider survey data availability. This can be found at www.iho.int/ ...